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\*\*\*1AC Building Block\*\*\*

1AC – Inherency (1/2)

Observation One is Inherency

Funding has been cut for Space Based Missile Defense systems.

Eaglen 2010 (Mackenzie, Research Fellow for National Security Studies at the Allison Centery for Foreign Policy Studies at the Heritage Foundation. “Why Missile Defense is Still Needed” <http://www.riponsociety.org/forum310g.htm>)

The administration’s plan for missile defense has four stages that continue through 2020. The program includes both land and sea-based interceptors. Ultimately, the fourth phase would move the system beyond regional defense and protect the entire U.S. homeland against an ICBM attack. Unfortunately, the administration has cut back on other integral parts of the comprehensive program. The number of ground-based interceptors in Alaska and California has been cut from 44 to 30, the planned “third site” for missile defense in Poland and the Czech Republic was cancelled, and funding has been eliminated for space.

This is disastrous – the US faces threats from Russia, China, rogue states, and terrorists

IndependentWorkingGroup2007 (The Independent Working Group is co-chaired by Dr. Robert Pfaltzgraff, President of the Institute of Foreign Policy Analysis (IFPA) at Tufts University, and by Dr. William R. Van Cleave, Professor Emeritus of the Department of Defense and Strategic Studies at Missouri State University, and a member of the original U.S. delegation which drafted the 1972 ABM Treaty. Ambassador Henry F. Cooper, who in former roles oversaw both development of missile defense for the U.S. and was chief negotiator to the Geneva Defense and Space Talks, Dr. Robert Jastrow, founding director of NASA’s Goddard Institute for Space Studies, and Dr. Lowell Wood, a Physicist at Lawrence Livermore National Laboratory and Commissioner on the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) were among the numerous missile defense, space, and security experts from the scientific, technical, and national security policy communities around the country who are members of the Independent Working Group. Members of the Working Group also include Brian T. Kennedy, president of the Claremont Institute, and Thomas Karako, Director of Programs at the Claremont Institute and editor of Missilethreat.com. Sponsors and authors of the IWG report include eight think-tanks headquartered in Washington D.C., California, Alaska, Missouri, Massachusetts, and around the country.2007(Collective report/study) “missile defense and the space relationship and the 21st century”2007 <http://www.missilethreat.com/repository/doclib/IWGreport.pdf>

So far, however, the United States has stopped short of put­ting these principles into practice. Rather, the missile defense system that has emerged since President Bush’s historic De­cember 2002 announcement of an “initial set” of missile de­fense capabilities provides extremely limited coverage, and no global capability. Instead, by the administration’s own ad­mission, it is intended as a limited defense against a small, rogue state threat scenario. Left unaddressed are the evolv­ing missile arsenals of – and potential missile threats from – strategic competitors such as Russia and China as well as terrorists launching short-range missiles such as *Scuds* from off-shore vessels.

1AC – Inherency (2/2)

National Security concerns make space weaponization inevitable – even if we don’t, others will – we MUST take steps to protect ourselves

**Mueller ’02** (Karl P. Prepared for presentation at the International Studies Association Annual Convention, works for the Research and Development Nonprofit Global Thinktank “Is the Weaponization of Space Inevitable?” March 27, 2002 New Orleans DOA: 7/18/11 AW)

Far and away the best argument that space weaponization is inevitable, and the only such argument that can plausibly stand on its own, is that the military utility of space weapons for the United States and/or its enemies will soon be so great that the imperative of protecting national security will make space weaponization impossible for rational statesmen to resist. Exactly what these weapons would do, and how, varies from one weaponization vision to another, but the standard expectation is that space weapons would eventually defend friendly satellites against enemy attack, attack enemy space weapons and other satellites that perform important military functions, shoot down long-range ballistic missiles, and conduct attacks against enemy air and surface forces and other terrestrial targets.  Some weaponization advocates anticipate that space weapons will ultimately supplant many, or even most, types of terrestrial military forces; others have more modest expectations, but all predict that space weapons will be the best, and in some cases the only, systems available to fulfill at least some key military roles. The core of this inevitability argument is that even (or especially) if the United States chooses not to build space weapons, other countries will certainly do so, in large part because of the great and still growing degree to which U.S. military operations depend upon what has traditionally been known as “space force enhancement”: the use of satellites to provide a vast array of services including communications, reconnaissance, navigation, and missile launch warning, without which American military power would be crippled.  This parallels the argument that the importance of satellites to the U.S. economy will make them an irresistible target, except that military satellites are far more indispensable, and successful attacks against a relatively small number of them could have a considerable military impact, for example by concealing preparations for an invasion or by disrupting U.S. operations at a critical juncture.  Rivals of the United States might also find space-to-earth weapons to be a very attractive way to counter U.S. advantages in military power projection.

1AC – Plan Text

Text: The United States Department of Defense should deploy a global space-based ballistic missile defense system beyond the Earth’s mesosphere.

[insert advantages here]

1AC – Solvency (1/4)

Observation 3 is solvency

The Aff is try-or-die – missile defense is key to stop growing threats

IndependentWorkingGroup 2007 (The Independent Working Group is co-chaired by Dr. Robert Pfaltzgraff, President of the Institute of Foreign Policy Analysis (IFPA) at Tufts University, and by Dr. William R. Van Cleave, Professor Emeritus of the Department of Defense and Strategic Studies at Missouri State University, and a member of the original U.S. delegation which drafted the 1972 ABM Treaty. Ambassador Henry F. Cooper, who in former roles oversaw both development of missile defense for the U.S. and was chief negotiator to the Geneva Defense and Space Talks, Dr. Robert Jastrow, founding director of NASA’s Goddard Institute for Space Studies, and Dr. Lowell Wood, a Physicist at Lawrence Livermore National Laboratory and Commissioner on the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) were among the numerous missile defense, space, and security experts from the scientific, technical, and national security policy communities around the country who are members of the Independent Working Group. Members of the Working Group also include Brian T. Kennedy, president of the Claremont Institute, and Thomas Karako, Director of Programs at the Claremont Institute and editor of Missilethreat.com. Sponsors and authors of the IWG report include eight think-tanks headquartered in Washington D.C., California, Alaska, Missouri, Massachusetts, and around the country.2007(Collective report/study) “missile defense and the space relationship and the 21st century”**2007** <http://www.missilethreat.com/repository/doclib/IWGreport.pdf>

Given this multiplicity of ballistic missile threats, the United States must deploy a missile defense that deters hostile states from developing or acquiring missile capabilities that could threaten the United States, our allies and coalition partners, and our forces deployed abroad. Furthermore, our missile defense R&D programs, together with planned deployments, must be sufficiently robust so as to dissuade would-be missile possessors from attempting to challenge the United States. We must deter future enemies from acquiring ballistic mis­siles; just as in the past we dissuaded them from developing strategic bombers because of our ability to overwhelm such systems. Finally, our missile defense must be capable of de­feating ballistic missiles, whatever their range and type, that could be launched against us. As we dissuade future potential possessors, we must rec­ognize that threats are increasing at a pace that no longer allows the luxury of long lead times within which a missile de­fense could be developed and deployed. Therefore, the United States must develop and deploy rapidly a missile defense with global reach, capable of coping with threats against the Unit­ed States and our forces and allies from any direction, while we attempt simultaneously to dissuade hostile actors from acquiring missiles through our ability to render such invest­ments a poor use of limited resources. Additionally, given the uncertainty in predicting where, when, and by whom missiles might be launched – and what their targets may be – there is a need for constant defenses capable of intercepting missiles irrespective of their geographic origin.

1AC – Solvency (2/4)

**Space-based missile defense systems can prevent US vulnerability and lead to security without destabilizing or spurring an arms race**

McLaughlin 2002 (Kevin, a National Defense Fellow at CSIS, commanded the squadron that operates the U.S. Global Positioning System satellites and served as a staff member on the Rumsfeld Space Commission. “Would Space-Based Defense Improve Security: New Geopolitical Constructs for Space Contributions” The Center for Strategic and International Studies and the Massachusetts Institute of Technology, The Washington Quarterly , 25:3 pp. 177–191)

In discussions of how space is or could be used to meet BMD requirements, one must also examine the effect of such moves on strategic stability and the international community. To understand if using space in support of missile defenses can enhance or weaken U.S. national security, one must consider the environment that has shaped the debate on this important but poorly understood topic. Since the dawn of the missile age, analysts dealing with international and security policies have argued about the proper role space should play in programs designed to defend the United States from ballistic missile attack. From these concepts flowed a calculus that produced a family of interlockingideas such as nuclear deterrence, mutual assured destruction, and mutual vulnerability that guided the United States through the Cold War. During this era, the ABM Treaty and U.S. policy constrained any serious attempts [End Page 181] to utilize space in ways deemed destabilizing. In particular, both the treaty and U.S. policy prohibited using space-based weapons for any purpose—missile defense or otherwise. Other space capabilities that could be directly tied into BMD architectures also caused concern. For example, strategic analysts viewed a missile-warning satellite as a stabilizing factor if it provided enough warning for U.S. decisionmakers to launch retaliatory nuclear strikes and preserved the concept of mutual assured destruction. The missile-warning satellite might also enhance the effectiveness of missile defenses, however, and some analysts viewed that possibility as a destabilizing influence because it would reduce U.S. vulnerability. Within this framework, the national security community carved out mature policy positions on how space and missile defense affected nuclear stability, arms control, force structure, and other important aspects of defense policy. The dawn of the twenty-first century has turned this issue on its head. Revolutionary advances in the use of space to support nonstrategic and nonmissile defense missions have led to calls for the normalization of space in support of U.S. objectives. Recent high-level studies, such as the one authored by the Commission to Assess U.S. National Security Space Management and Organization, chaired by Rumsfeld, have described space as a vital national interest that the United States must protect and use to support U.S. national interests. International perceptions and reactions are evolving in ways that the United States may not fully recognize or acknowledge, particularly as European and Asian nations move to deploy satellites that will support their security needs. The European Galileo navigation satellite is a key example of a satellite system that will likely revolutionize the manner in which European nations use space to meet national security requirements. The French Ministry of Defense is also interested in developing a space-based system to provide early warning of ballistic missile attacks. These facts suggest that strategic analysts and policymakers should strive to understand these new dynamics fully and resist efforts to use old and outdated methods to solve new problems. Unfortunately, entire bureaucracies and constituencies have evolved on all sides of the debate, and adjusting to the realities of how the world has changed around them is often difficult**.** The nation's best thinkers, strategists, and planners must intellectually engage these changes to allow a full and proper debate on the issue**.** In other words**,** the time has come for the Cold Warriors and arms controllers to surrender their old guards. Without this transition in the intellectual and academic [End Page 182] approach to the problem, characterizing the new environment accurately or developing a new calculus for analyzing current strategic issues, including those associated with integrating space capabilities into U.S. ballistic missile defenses, will not be possible. No examination of this topic is adequate without a short discussion of how new geopolitical realities mandate a new approach. First, the United States occupies a predominant position in the new millennium—economically, technologically, and militarily—relative to all other countries. The U.S. dollar is the benchmark currency in a world that increasingly uses English as the global language. To define this new reality, French foreign minister Hubert Védrine has labeled the United States a "hyperpower." 1 Although his use of the term is not complimentary, the term does reflect the perception and, in many ways, the reality of the current global dominance of the United States. The level of U.S. dominance gives rise to some predictable and some unanticipated results. Europe, driven primarily by French and German concerns, will strive mightily to forge a common European identity that might be capable of keeping U.S. power in check and will work to maintain a strong role for Europe in global affairs. Russia and China will continue to use their limited resources in broad efforts to reduce the relative imbalance between their national power and that of the United States. Other countries and regions may also act in ways designed to counteract U.S. strength. These possibilities are not new ideas; commentators have extensively written about them. No one has given much thought, however, to how this new reality shapes the potential effect that more extensive use of space may have on strategic stability. The current geopolitical landscape is a multilateral maze of unequal partners, increasingly proliferated technology (including the technology needed to develop and deliver weapons of mass destruction [WMD]), and a suddenly unsatisfying U.S. stance on deterrence and vulnerability. 2 U.S. and Russian nuclear stockpiles are moving toward their lowest levels in decades, and the risk of a massive Russian nuclear strike on the United States is no longer a primary concern. In this new environment, the nation's deterrent forces do not counter the threats that give rise to its greatest concerns. The strategic vulnerability that perversely formed the basis of U.S. security during the Cold War has become a glaring weakness and perhaps an invitation to those who might harm the United States. In this context, developing and fielding capabilities that reduce U.S. vulnerability and deter the most dangerous threats apparently best enhance U.S. security and strategic stability. [End Page 183] Missile defenses are one of the areas that could potentially reduce U.S. vulnerability, and officials should carefully examine the use of space to its fullest extent. Observers have not yet fully understood or analyzed another possible reality. The current striking disparity between the United States and all other countries in economic, technological, and military endeavors places extreme limits on most countries' abilities to respond meaningfully. Old concerns that U.S. advances in missile defense or space would spawn undesirable arms races may no longer be valid. 3 For example**,** the United States is the only nation capable of implementing and sustaining decisive military force on a global basis. The war in Afghanistan provided a snapshot of this ability. The

1AC – Solvency (3/4)

nation's development and use of many capabilities—modern airpower; long-range precision weapons; command, control, and communications and intelligence; and highly skilled soldiers, sailors, marines, and airmen—have drastically outpaced all other countries. No other country could carry out the mission that the United States is executing in Afghanistan. Any other country or alliance, such as the proposed 60,000-person European Rapid Reaction Force, performing a similar mission in the near term or in the midterm is equally doubtful. Even more significantly, in the current global war on terrorism, the United States is working to increase the scope of its capabilities to operate simultaneously in several spots around the world. Primarily, U.S. wealth, global responsibilities, and national security needs drive this reality**.** The administration's FY 2003 defense budget request of $379 billion is more than six times larger than that of Russia, the second-largest spender, and more than the combined spending of the next 25 nations. 4 This disparity creates its own dynamic with unique qualities, one of which may be the elimination of the incentive for many nations even to try to compete, decreasing the likelihood that U.S. developments will face traditional countermeasures. For example, the B-2 stealth bomber provides the United States with an unchallenged military capability that other nations would have viewed as destabilizing only a few years ago. The airplane can fly anywhere in the world undetected and can attack targets through defenses that officials previously thought were impenetrable. Yet, this revolutionary capability has not given rise to a race to build stealth bombers, nor has it resulted in a huge defensive investment by the Chinese, the Russians, or the Europeans to develop technology to counter it. Other nations have not cried out in indignation—an indication that the [End Page 184**]** United States can use such overwhelming capabilities without threatening the world's strategic stability. Other than the B-2, any number of U.S. technological advances, such as unmanned combat air vehicles (UCAVs), information dominance capabilities, and the previously mentioned SBIRS system, serve as examples of advanced U.S. warfighting capabilities revolutionizing the nation's military capabilities and further increasing the disparity between the United States and the rest of the world, but that have not seemed to produce arms races or other traditional responses. For these reasons, U.S. development of space-based missile defenses will arguably contribute to U.S. security and possibly in a way neither destabilizing nor likely to spawn an arms race in space.

We are more technologically prepared than ever before – deploying SBMD now would be fast, cheap, and effective – this is the most recent evidence on this question

Haun, 2011 (Marjorie, writer and analyst for blogcritics.org, “The Dangerous Decline of Missile Defense” May 16 2011)

"Star Wars" is often used as an anti-Reagan epithet, to make the former president appear doddy or delusional. Star Wars was in fact the brilliant strategy that would place in earth orbit defensive weapons which could shoot down entire salvos of nuclear payload ballistic missiles before they reached North America. This was not science fiction. A space-based global missile defense shield was not just possible, but relatively cheap (in defense budget terms) to implement. The proper national reaction to potential nuclear threat from ballistic missile attack should be first to defend against such an attack. At the outset, to defend is cheaper than the attempt to disarm the enemy. Anti-ballistic missile defense, unlike multi-national disarmament, is something which the United States government can control. It is sophistry to think that because the United States of America is a "good" country full of "nice" people, that our example will be sufficient to pacify antagonistic regimes. It is also foolish to believe that if we decrease our stockpile of nuclear deterrents and defenses, other nations will respond to our helplessness with compassion. These scenarios are the philosophical landscape of President Obama, and he has backed us into a corner from which we have no adequate strategies to escape. An April 20, 2011 analysis paper by James Jay Carafano of the Heritage Foundation outlines the history of ballistic missile technologies and the efforts by the United States to construct adequate defenses against them. The paper is a sad indictment of failures in the Bush I, Clinton, Bush II and Obama administrations to address what is the single most dangerous threat to the security of North America. The 1972 Anti-Ballistic Arms Treaty was an attempt to curb the threat of nuclear missile attack between the United States and the Soviet Union. It called for limits on the manufacture of offensive nuclear arms, and allowed for limited, ground-based interceptions of ballistic missile launches. It was not an effective strategy for the free world and was abandoned by the Bush II administration in 2003. Ronald Reagan's Strategic Defense Initiative (SDI or Star Wars), was a leap in thinking that would place defensive operations into earth orbit. The doctrine of Mutually Assured Destruction (MAD) was unacceptable to Reagan. He opted for the "protect and defend" capabilities of a high tech, space-based array of ABM weapons. The program was underway, but incomplete, when Reagan left office. However, the mere possibility that this technology could exist sent the Soviet Union into a frenzy of military spending that was partly responsible for its collapse in the early 1990s. Unfortunately, with the fall of the "Evil Empire," Bush I did not follow through with SDI and without the threat of nuclear strike from the USSR, the program was mothballed. Clinton gutted the space-based missile defense programs. He also used the elimination of U.S. ground-based, short-range missile defenses in an effort to appease the wounded Russian regime. The Republican Congress in 1999 passed The National Missile Defense Act which was subsequently signed by Clinton. But that law was limited in its effectiveness because of obstacles in defense appropriations. By this time momentum for missile defense programs was waning. Although Bush II de-authorized the ABM treaty of 1972, he was unable to mount a vigorous missile-defense program during his presidential tenure. The worst is yet to come. One of Barack Obama's first acts as president was to cut the missile defense portion of the defense budget by up to 50 percent. In an inexplicable act, he cut ground-based interceptors in a number of tactical locations in the United States by 30 percent. The Obama administration then cut the Bush II-era "third site" ballistic missile defenses located in Poland and Czech Republic. This was not only an affront to the national security of the United States, but a slap in the face to our allies in Eastern Europe. When the Strategic Arms Reductions Treaty (START) was ratified by the Obama administration and Democrat controlled Congress late in 2010, it was another in a series of acts that would effectively neutralize the United States as a nuclear super-power, giving the Russians room for nuclear weapons development and expansion, while decreasing the power and scope of our nuclear capabilities. The unintended, and terrifying, implications of START and the severe cuts in missile defense, are that the Russians are the least of our worries. Rogue and unstable regimes such as North Korea, Iran, and Pakistan have displayed their ability to send Intercontinental Ballistic Missiles (ICBMs) in our direction.

1AC – Solvency (4/4)

**Space based missile defense is THE key factor in deterring global power rivals while also increasing United States power**

IFPA 09 (Institute for foreign policy analysis l Missile Defense, the Space Relationship, & the Twenty-First Century <http://www.ifpa.org/pdf/IWG2009.pdf>

The benefits of space-based defense are manifold. The deployment of a robust global missile defense that includes space-based interdiction capabilities will make more expensive, and therefore less attractive, the foreign development of offensive ballistic missile technologies needed to overcome it. Indeed, the enduring lesson of the ABM Treaty era is that the absence of defenses, rather than their presence, empowers the development of offensive technologies that can threaten American security and the lives of American citizens. And access to space, as well as space control, is key to future U.S. efforts to provide disincentives to an array of actors seeking such power. So far, however, the United States has stopped short of putting these principles into practice. Rather, the missile defense system that has been deployed so far provides extremely limited coverage. It is intended as a limited defense against a small, rogue-state threat scenario. Left unad-Executive Summary xi Missile Defense, the Space Relationship, and the Twenty-First Century dressed are the evolving missile arsenals of – and potential missile threats from – modernizing strategic competitors such as Russia and China as well as terrorists launching short-range missiles such as Scuds from off-shore vessels. The key impediments to the development of a more robust layered system that includes space-based interdiction assets have been more political than technological. A small but vocal minority has so far succeeded in driving the debate against missile defense and especially space-based missile defense. The outcome has been that political considerations have by and large dictated technical behavior, with the goal of developing the most technologically sound and cost-effective defenses subordinated to other interests. A symptom of this problem is the fact that, in spite of a commitment to protecting the United States from ballistic missile attack, little has been done to revive the cuttingedge technologies developed in the 1980s and early 1990s – technologies that produced the most effective, least costly ways to defend the U.S. homeland, its deployed troops, and its international partners from the threat of ballistic missile attack. The most impressive of these initiatives was Brilliant Pebbles. By 1992, that initiative – entailing the deployment of a constellation of small, advanced kill-vehicles in space – had developed a cheap, effective means of destroying enemy ballistic missiles in all modes of flight. Yet in the early 1990s, along with a number of other promising programs, it fell victim to a systematic eradication of space-based technologies that marked the closing years of the twentieth century and still impedes the development of the most effective missile defense today. The current state of affairs surrounding missile defense carries profound implications for the safety and security of the United States, and its role on the world stage in the decades to come. Without the means to dissuade, deter, and defeat a growing number of strategic adversaries, the United States will be unable to maintain its status of global leadership. The creation of effective defenses against ballistic missile attack remains central to this task. Historically, it is evident that the major geopolitical options that become available have been exploited by one nation or another. Those nations that are most successful in recognizing and acting on such options have become dominant. Others that have failed or have consciously decided not to do so are relegated to inferior political status. A salient case in point is ocean navigation and exploration. The Chinese were the first to become preeminent in this retrospectively pivotal area during the early Ming dynasty. However, domestic politics – strongly resembling missile defense politics in the United States of the past several decades – allowed this great national lead to be dissipated, with historic consequences felt until the present day, a full half millennium later. The subsequent assumption by Portugal of this leading maritime role resulted in geopolitical preeminence that was eventually lost to other powers. In the twenty-first century, maintenance of its present lead in space may indeed be pivotal to the basic geopolitical, military, and economic status of the United States. Consolidation of the preeminent U.S. position in space akin to Britain’s dominance of the oceans in the nineteenth century is not an option, but rather a necessity, for if not the United States, some other nation, or nations, will aspire to this role, as several others already do. For the United States, space is a crucially important twenty-first century geopolitical setting that includes a global missile defense. As American policy makers look ahead, new momentum and direction are needed in the pursuit of a truly global missile defense capability that incorporates space-based interdiction capabilities and addresses the current and emerging threats of the twenty-first century security setting.

A Space based missile defense system can operate with a relatively small number of platforms

Lambakis 07 (Steven national security and international affairs analyst specializing in space power and policy studies, Missile Defense From Space A more effective shield February 1, 2007 [policy review](http://www.hoover.org/publications/policy-review) » [no. 141](http://www.hoover.org/publications/policy-review/5224)

<http://www.hoover.org/publications/policy-review/article/6124>)

Because the missile defense system is “layered” and will have multiple elements working together synergistically, sharing information, sharing existing sensors, communicating as a single system worldwide, even a small constellation of space-based interceptor platforms would allow the entire system to work more efficiently. The massive constellations projected back in the heady days of the Strategic Defense Initiative, in other words, do not seem to be necessary, especially when the targeted adversaries have very limited ballistic missile inventories. By attacking even just a portion of the threat missiles in boost and midcourse, the space layer has the effect of thinning out the number of attacking missiles so that the other elements of the system, which are based on the ground or at sea (midcourse and terminal systems), can be more effective.

\*\*\*All-Purpose Solvency\*\*\*

Solvency – Accuracy

**Laser**s **Are Inherently Accurate**

Aubin 2000 **(**Dr. Stephen P. Aubin is the director of Strategy Execution in the Raytheon Company’s Corporate Strategy group. Ph.D. (1996) Boston University, National Security Studies and Communications M.A. (1982) Georgetown University, National Security Studies/Government B.A. (1980) Georgetown University, Government/French)

In June 2000, the Tactical High Energy Laser, or THEL, successfully shot down a Katyusha rocket at the White Sands Missile Range in New Mexico. On several occasions in August and September, THEL managed another feat by engaging and destroying two-missile salvos of Katyusha rockets. To date, THEL has negated a total of 13 Katyusha rockets. Although THEL is being designed for tactical use by the U.S. Army and the Israeli Army, its success demonstrates how far directed energy research and development have progressed in recent years. The SBL-IFX program builds on more than twenty years of research and investment by the nation in the development of directed energy weapon systems, technologies and related facilities. The Defense Advanced Research Projects Agency initiated the SBL program in 1977. It was later transferred to the Strategic Defense Initiative Organization (SDIO) in 1984. In May 1997, a Memorandum of Agreement was signed transferring execution of the SBL-IFX from the Ballistic Missile Defense Organization, SDIO’s successor, to the Air Force. Over the years, the members of Team SBL-IFX have played central roles in several directed energy programs that have advanced the nation’s understanding of a space-based laser missile defense option, including Zenith Star, Mid-InfraRed Advanced Chemical Laser (MIRACL), Alpha, the Airborne Laser (ABL), the Tactical High Energy Laser (THEL), the High Energy Laser Systems Test Facility (HELSTF), and the Alpha-LAMP Integration (ALI) program. This heritage of success provides the foundation for a successful Space-Based Laser Integrated Flight Experiment ␣ a critical step toward providing the nation and its allies with a global, boost-phase defense against the evolving threat of ballistic missiles.

**SBL’s will be able to intercept ICBM’s at any point in flight path**

**Spring 07** (Baker, Baker Spring is the F.M. Kirby Research Fellow in National Security Policy at The Heritage Foundation. Toward Defending America: Progress But Still Vulnerable, Lexis)

The Bush Administration has made significant progress toward fielding an effective defense against ballistic missiles. The greatest advances have come in the policy area. President George W. Bush kicked off the effort to change the Clinton Administration's negative policies toward missile defense with a speech on May 1, 2001, to the faculty and students of the National Defense University. In this speech, the President signaled his intention to put missile defense at the heart of the effort to transform the military and position it to meet the security needs of the 21st century. President Bush followed up this speech by changing missile defense policy with a dramatic announcement on December 13, 2001, that the U.S. was withdrawing from the 1972 Anti-Ballistic Missile (ABM) Treaty with the former Soviet Union. The ABM Treaty blocked the development, testing, and deployment of effective defenses against ballistic missiles. On January 9, 2002, the Department of Defense (DOD) announced the findings of the Nuclear Posture Review, a new strategic policy that made defenses a part of a new strategic triad. Under this policy, defenses were paired with offensive conventional and nuclear strike capabilities and a robust technology and industrial base to meet U.S. strategic needs. Finally, on May 20, 2003, the White House released a description of a presidential directive signed earlier by President Bush that related to his policy for developing and deploying a layered missile defense system as soon as possible to defend the people and territory of the United States, U.S. troops deployed abroad, and U.S. allies and friends. When fielded, this layered defense will be able to intercept ballistic missiles in the boost (ascent), midcourse, and terminal phases of flight. The Bush Administration has also made significant advances in increasing funding levels for missile defense research, development, and deployment. In fiscal year (FY) 2001, which was the last Clinton Administration budget, funding for the Ballistic Missile Defense Organization was $ 4.8 billion. This level of funding was achieved only because of aggressive congressional support for ballistic missile defense in the face of a reluctant Clinton Administration. In FY 2002, funding for what is now the Missile Defense Agency was increased to $ 7.8 billion. The projected expenditure level for FY 2007 is $ 9.4 billion. On the other hand, the American people still remain quite vulnerable to ballistic missile attack because missile defense programs have lagged behind advances in policy, funding, and -- regrettably -- the missile threat. To some extent, this is unavoidable. A policy for deploying effective missile defenses must precede actually fielding the defenses, and the necessary funding must be in place to move the programs forward. However, the American people remain vulnerable because opponents of missile defense have forced the Bush Administration and proponents in Congress to compromise on the most effective options. The most important of these regrettable compromises regards the failure to revive the technologies necessary to complete the development and ultimately to deploy the Brilliant Pebbles space-based interceptor, pioneered by the Reagan and George H. W. Bush Administrations. Congress weakened this rapidly advancing concept in 1991, and President Bill Clinton killed it in 1993. The current Bush Administration's failure to revive these technologies was noted early on by Ambassador Henry Cooper, former Director of the Strategic Defense Initiative Organization, in a 2001 letter to Lt. General Ronald Kadish, then Missile Defense Agency Director. The Brilliant Pebbles option remains dormant today. The sea-based systems for countering ballistic missiles have fared better than the space-based programs. The system is based on giving the Aegis weapons system for air defense deployed on Navy cruisers and destroyers a capability to track and intercept ballistic missiles. The interceptors consist of late-model and new-model Standard Missiles. As of July 2006, 11 Aegis destroyers had been upgraded to track ballistic missiles in flight. While an incorrect system setting blocked a test of the Standard Missile-3 on December 7, 2006, prior to that test, the Standard Missile-3 performed successful intercepts in seven out of eight attempts. At this time, three cruisers and three destroyers are capable of engaging short-range and medium-range ballistic missiles in the midcourse stage of flight with the Standard Missile-3. Finally, the Navy successfully tested the existing Standard Missile-2 Block IV against a short-range target missile in May 2006. During the test, this system destroyed the incoming missile in the terminal phase of flight. Despite the progress with sea-based missile defense systems, they are not as advanced as they could be. An accelerated approach to fielding sea-based ballistic missile defenses was described by Ambassador Cooper and Admiral J. D. Williams in an opinion piece in Inside Missile Defense on September 6, 2000. This approach advocated building on the existing Aegis infrastructure by increasing the interceptor missile's velocity to achieve a boost-phase intercept capability. It would also require changing the operational procedures that the Navy is permitted to use to perform missile defense intercepts.

Solvency – Ballistic Missiles

**SBLs could intercept ICBMs globally**

**Global Security 08** (<http://www.globalsecurity.org/space/systems/sbl.htm>, 08-03-2008, qualifications <http://www.globalsecurity.org/org/staff/pike.htm> )

The potential of intercepting and destroying a missile over enemy territory, soon after launch, rather than over friendly territory makes the development of a boost phase intercept (BPI) capability very desirable. In concert with ground based theater missile defense (TMD) systems already under development, the U. S. continues to investigate BPI concepts for BMD systems. The SBL program could develop the technology to provide the U. S. with an advanced BMD system for both theater and national missile defense. BMDO believes that an SBL system has the potential to make other contributions to U. S. security and world security as a whole. BMDO hopes that the fielding of a space based missile defense system would induce potential aggressors to abandon ballistic missile programs, as they would be rendered useless. Failing that, BMDO believes that the creation of such a universal defense system would provide the impetus for other nations to expand their security agreements with the United States, bringing them under a U. S. sponsored missile defense umbrella. An SBL platform would achieve missile interception by focusing and maintaining a high-powered laser on a target until it achieves catastrophic destruction. Energy for the sustained laser burst is generated by the chemical reaction of the hydrogen fluoride (HF) molecule. The HF molecules are created in an excited state from which the subsequent optical energy is drawn by an optical resonator surrounding the gain generator. Lasers have been investigated for their usefulness in air defense since 1973, when the Mid Infrared Advanced Chemical Laser (MIRACL) was first tested against tactical missiles and drone aircraft. Work on such systems continued through the 1980s, with the Airborne Laser Laboratory, which completed the first test laser intercepts above the earth. Initial work on laser based defense systems was overseen by the Defense Advanced Research Projects Agency (DARPA), but transferred to the newly created Strategic Defense Initiative Organization (SDIO) in 1984. Work continues today under the auspices of the BMDO, the successor to the SDIO. Over the past thre decades, the Defense Advanced Research Projects Agency (DARPA), the Air Force and the Ballistic Missile Defense Organization (BMDO), formerly the Strategic Defense Initiative Organization (SDIO), have developed the technologies essential for a Space-Based Laser (SBL) system. The Alpha LAMP Integration (ALI) program performed integrated high energy ground testing of the laser and beam expander to demonstrate the critical system elements. The next step was an integrated space vehicle ground test with a space demonstration to conclusively prove the feasibility of deploying an operational SBL system. Future plans included orbiting the SBL Readiness Demonstrator (SBLRD) in order to test all of the systems together in their intended working environment. The SBLRD satellite will be comprised of four major subsystems: the ATP system, which provides acquisition, tracking, targeting, stabilization, and assessment capabilities; the laser device, which provides for the optical power, and beam quality, as well as maintains nozzle efficiency; the optics and beam control systems, which enhance and focus the beam, augmenting the capabilities of the laser device; and the space systems, which provide a stable platform, storage of the reactants, and furnish electrical power (but do not power the laser). The SBL Readiness Demonstration (SBLRD) is a technology integration project that could result in a demonstration of the capability to perform boost phase Theater Missile Defense from space.  The objectives of the space demonstration include gaining performance information critical to the development of an operational SBL system, as well as gain a general understanding of operationing such a system. BMDO and the Air Force agreed to transfer the execution of the SBLRD project and the related SBL technology developments to the Air Force. BMDO retained overarching SBL architecture responsibilities. The SBL program built on a broad variety of technologies developed by the SDIO in the 1980s. The work on the Large Optics Demonstration Experiment (LODE), completed in 1987, provided the means to control the beams of large, high-powered lasers. The Large Advanced Mirror Program (LAMP) designed and built a 4-meter diameter space designed mirror with the required optical figure and surface quality. In 1991, the Alpha laser (2.8 mm) developed by the SDIO achieved megawatt power at the requisite operating level in a low-pressure environment similar to space. Numerous Acquisition, Tracking, and Pointing/ Fire Control (ATP/ FC) experiments both completed and currently underway will provide the SBL platform with stable aimpoints. Successes in the field of ATP include advances in inertial reference, vibration isolation, and rapid retargeting/ precision pointing (R2P2). In 1995, the Space Pointing Integrated Controls Experiment offered near weapons level results during testing. In its 1984 directed energy plan, SD10 planned to develop and ground test the Space-Based Chemical baser (SBCL) technology by the end of 1990 at a cost of $1,121 million. Through fiscal year 1993, SDIO had spent $873 million and had completed all major objectives except the ground test. SDIO estimated that it would take 2 more years and cost $176 million more to complete the ground demonstration and several advanced technologies. These actions would complete the 1934 plan for SBCL for a total cost of $1,049 million or $72 million less than estimated in the plan. SDIO would then decide whether to complete a system level demonstration on the ground at an estimated cost of $400 million. An optional flight experiment would cost another $370 million. These system level demonstrations would complete the demonstration and validation phase of development. By previous guidance in PBD 224C (28 Dec 1998) the BMDO and USAF SBL project pursued an integrated ground demonstration. It is known as the ITU. Additional guidance was provided by the Undersecretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) memorandum to BMDO Director dated 25 Feb 1999) to structure a project plan leading to an SBL IFX in FY12/13. Furthermore, the SBL project has been designated as a Pre-MDAP by the Undersecretary of Defense for Acquisition and Technology. A contract was awarded 8 February 1999 conveying total system authority (TSA) on a Joint Venture (JV) Team comprised of Lockheed Martin, TRW, and Boeing. Under TSA the government specifies broad objectives, and the JV is responsible for the content of the SBL IFX, including the ITU. The Ballistic Missile Defense (BMD) Program and resulting FY 2002 President's Budget request was developed based on revised Secretary of Defense direction to develop capabilities to defend against the missile threat and sustain appropriate deterrence levels. Beginning in FY 2002, funding from Program Element 0603174C Space Based Laser was moved to PE 0603883C Boost Defense Segment to facilitate BMD system capability evolution, allow timely responses and reactions to changes in the BMD program, and provide the programmatic agility to mitigate unforeseen consequences. Based on the FY 2002 funding reduction, the MDA reevaluated the Space Based Laser (SBL) program. Activities involving the Integrated Flight Experiment concept were brought to a halt in an orderly manner, preserving long term value for a future program. Beginning in FY 2003, funding for the Space Based Laser program (Project 4043) transitioned to support the Missile Defense Agency's (MDA's) Laser Technology Program. Reference Program Element 0603875C Advanced System (AS) for project 4043. The Space-Based Laser is planned to be a spacecraft weighing 17,500 kg, though this weight could grow to 19,000 kg. The spacecraft would be 20 meters long with a diameter of over 4.5 meters. As of mid-2001 the SBL Integrated Flight Experiment was scheduled for launch in 2012, with an intercept test to be conducted in 2013. The SBL test facility is being built at NASA s Stennis Space Center in Mississippi. The project passed a Systems Requirements Review in March 2001, with a System Definition Review planned for fall 2001. Accelerating the schedule of the SBL prototype would require funding increases over the initially estimated $2-3 billion cost of the test. Some estimates suggest that a full 20-satellite constellation could cost $40 billion, plus launch costs. In the late 1990s SBL planning was based on a 20 satellite constellation, operating at a 40° inclination, intended to provide the optimum TMD threat negation capability. At this degree of deployment, kill times per missile will range from 1 to 10 seconds, depending on the range from the missile. Retargeting times are calculated at as low as 0.5 seconds for new targets requiring small angle changes. It was estimated that a constellation consisting of only 12 satellites can negate 94% of all missile threats in most theater threat scenarios. Thus a system consisting of 20 satellites is expected by BMDO to provide nearly full threat negation.

Solvency – Ballistic Missiles

**A space based missile defense system is the only defense system that can prevent any and every missile threat**

IFPA 09 (Institute for foreign policy analysis l Missile Defense, the Space Relationship, & the Twenty-First Century <http://www.ifpa.org/pdf/IWG2009.pdf>

Other things being equal, it is preferable to intercept threatening ballistic missiles as far away from their intended targets and as early in their flight trajectory as possible. Best of all would be to have the capability to destroy an attacking missile shortly after it is launched, while its rockets still burn and any perturbation will lead to its destruction – with, in many cases, the debris falling back onto the area from which the attack was launched in the first place. The capability to interdict a missile and its warheads in any phases of their flight (boost, midcourse, and terminal) requires an ability to detect and intercept the attack within a very few minutes and to track and destroy the attacking missile and its warheads during their longer midcourse traverse through space before they reenter the atmosphere. Finally, the lastditch defense would be to destroy the attacking missiles as they reenter and pass through the atmosphere – and as accompanying debris and decoys burn up on reentry – in the terminal phase en route to their targets. The best defense ca- height of burst (km) 100 300 500 EMP Coverage intensity also depends upon weapon design & location of burst14 Twenty–First–Century Threats Missile Defense, the Space Relationship, and the Twenty-First Century pability would be layered so that it could provide opportunities for destruction in all three phases of flight. Only space-based defenses inherently have this global capability and permanence. While sea-based defenses can move freely through the two-thirds of the earth’s surface that are oceans, their capability is limited by geography and by the specific operations of the fleet – including where the seabased missile defense happens to be deployed at any given time, and how quickly it could be redeployed to meet a crisis situation. Air-based and ground-based defenses, meanwhile, can have global capabilities, but frequently take considerable time to deploy when and where needed and are also dependent on the cooperation of U.S. friends and allies in permitting the necessary supporting activities on their territories. Thus, only a space-based missile defense will possess both constancy and global availability, irrespective of allied support and agreement. As such, space-based missile defense constitutes the only truly global system, with all the rest being either regional or local

Solvency – Ballistic Missiles

**SBMD is the only way to eliminate missile threats on a global scale**

**Institute for Foreign Policy Analysis August 2006** (“Independent Working Group on Missile Defense, the Space Relationship, and the Twenty-First Century, 2007 Report”, page 10-11, Washington D.C. DOA: 7/18/11, spacedebate.org)

Other things being equal, it is preferable to intercept threatening ballistic missiles as far away from their intended targets as possible and as early in their flight trajectory as possible. Best of all would be to have the capability to destroy an attacking missile shortly after it is launched, while its rockets still burn and any perturbation will lead to its destruction -- with, in many cases, the debris falling back onto the area where the attack was launched in the first place. The capability to interdict a missile and its warheads in any phases of their flight (boost, midcourse, and terminal) requires an ability to detect and intercept the attack within a very few minutes and to track and destroy the attacking missile and its warheads during their longer midcourse traverse through space before they begin to re­enter the atmosphere so that the debris will burn up on reentry. Finally, the last ditch defense would be to destroy the attacking missile as they reenter and pass through the atmosphere in the terminal phase en route to their target. The best defense capability would be layered so that it could provide o­pportunities for destruction in all three phases of flight. Only space-based defenses inherently have this global capa­bility and permanence. While sea-based defenses can move free­ly through the two-thirds of the earth's surface that are oceans, their capability is limited by geography and by the specific operations of the fleet -- including where the sea-based missile defense happens to be deployed at any given time, and how quick­ly it could be redeployed to meet a crisis situation. Air-based and ground-based defenses, meanwhile, can have global capa­bilities, but frequently take considerable time to deploy when and where needed and are also dependent on the cooperation of U.S. friends and allies in permitting the necessary support­ing activities on their territories. Thus, only a space-based missile defense will possess both constancy and global availability, irrespective of allied support and agreement. As such, space-based missile defense constitutes the only truly global system, with all the rest being either "regional" or "local."

SBLs can achieve global BMD capability

Deveci 2007 (Bayram, Doctorate at Naval Postgraduate School, **07** [Naval Postgraduate School, “Directed-Energy Weapons: Invisible and Invincible?”, September 2007, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA473993&Location=U2&doc=GetTRDoc.pdf>)

The space-based laser (SBL) is another high-energy laser type that uses a hydrogen fluoride (HF) chemical laser to achieve an effective, global ballistic missile defense capability. The SBL is currently envisioned to be a constellation of orbital laser weapons capable of engaging and destroying several classes of missiles, launched from anywhere in the world, during the boost phase. The SBL will also have the capability to destroy or disable other space-based systems such as surveillance satellites. Moreover, a different laser type that has an appropriate wavelength other than that of the hydrogen fluoride (HF) chemical laser could attack ground targets. According to sources, the best space-based laser (Figure 13) concept would operate at an altitude of 1,300 km above the earth’s surface with twenty different spacebased platforms. This would provide a continuous worldwide defense ability to destroy hostile missiles launched anytime from anywhere on the globe. Each space-based laser platform consists of four major subsystems: • A laser device, which uses megawatt-class hydrogen fluoride (HF) chemical laser operating at 2.7 microns. • An optics and beam control system, which has a 2.4- to 4.0-meterdiameter primary beam director and an integrated beam control system. • An acquisition, tracking, pointing and fire control (ATP/FC) system, which includes a stabilized platform to maintain the beam on the target. • Associated space systems, which provide the necessary electrical power, laser reactants, on-board data processing, and command and control. 72 Two other longer term options are considered to involve space-based laser systems. The first uses space-based mirrors and places the laser on the ground. The distinct advantage of this architecture is that the high-energy laser is kept on the ground, which eliminates refueling and complex maintenance problems. Although it has an advantage, this option has disadvantages that include the requirement for higher energy levels to counter greater losses due to atmospheric transmission. A second option is deployment of space-laser weapons with large orbital mirrors. The concept behind this architecture is to increase the altitude of platforms and insert bifocal mirrors into the same orbit as the laser weapons. One distinct advantage of this architecture is the possibility of reducing the weight and expense of the system. Instead of twenty laser platforms, the concept requires roughly ten platforms and ten orbiting mission mirrors.74 This will decrease the number of laser platforms but will also require higher energy levels because of the higher orbital altitude.

Solvency – Ballistic Missiles

Directed energy weapons key to successful weapon advantage and ballistic missile defense

Deveci 2007 (Bayram, Doctorate at Naval Postgraduate School, **07** [Naval Postgraduate School, “Directed-Energy Weapons: Invisible and Invincible?”, September 2007, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA473993&Location=U2&doc=GetTRDoc.pdf>)

1. Advantages of Directed-Energy Weapons There are several reasons for the growing interest in directed-energy weapons. The attraction of the military to these weapons is clear when considering the unique properties they bring to the strategic, operational, and tactical battlefield. The first and most obvious advantage is that directed-energy weapons deliver lethal energy at the speed of light. This significant advantage enables instant reaction to fast, highly maneuverable targets. That means many of the problems associated with aiming and discharging existing weapons are effectively eliminated, because virtually no time elapses between firing a directed-energy weapon and its impact on the target. 23 Avoidance of collateral damage or adjustable energy is the second advantage of directed-energy weapons. Today’s war mentality prefers the option to inflict non-lethal attacks prior to the use of lethal force. In contrast to kinetic and chemical weapons that might have devastating and unintended collateral effects, flexible engagement levels dependent upon the transmitted power and irradiation time makes the DE weapons unique and valuable. A third important aspect of the directed-energy weapons is that they are extremely precise. Directed-energy weapons allow the attackers employing them to select the specific part of a fast-moving target that they wish to strike. In fact, with sufficient tracking and characterization, this unprecedented precision will accomplish surgical strikes with no collateral damage or fratricidal effects on friendly forces. 24 A fourth important feature of directed-energy weapons is their freedom from gravitational limits. Directed-energy beams are essentially immune to gravity due to their lack of mass, which also frees them from the kinematic and aerodynamic constraints that limit traditional weapons. 2 A fifth key feature of the directed-energy weapons is that they are area weapons that can engage multiple targets within a hostile area with minimal prior information on threat characteristics. They can affect all targets in that area and can be rapidly retargeted to provide protection in several directions. 26 A sixth directed-energy weapon advantage is their deep magazines, which need only fuel and battery chargers, as well as low operating costs. For example, a tactical high-energy laser shot is estimated to cost about $8,000, whereas firing a Patriot (PAC-3) missile costs $3.8 million; an AIM-7 Sparrow missile costs approximately $125,000; and a Tomahawk cruise missile costs roughly $600,000. Although the beam-generating system may be expensive to build and maintain, the price of engagements is minimal because the system expends only energy. 27 A final unique characteristic of directed-energy weapon is their all-weather attack capability to reach virtually untouchable targets. They are unaffected by weather and can penetrate deep into the earth, enabling attacks on buried bunkers, as well as targets in space. 28 2. Limitations and Problems with Directed-Energy Weapons Directed-energy weapons offer new ways of fighting that will change current doctrines, tactics, and strategies. As with the introduction of any new systems, directed energy weapons also have limitations and drawbacks that will tend to mitigate their fast growth. The first problem facing directed energy is operating under real-world conditions. While a new technology like directed-energy weapons are being transitioned out of the laboratory to the real battlegrounds, there might be relatively simple countermeasures that can restrict the effectiveness of directed-energy weapons that have been overlooked by those working in the laboratories and that may be relatively simple to implement. Fratricide is probably the second biggest drawback in using this technology. Some directed-energy weapons are not very discriminating. Radiating at an enemy will not only affect the target system, but also anything else in the beam’s path. Any friendly forces within the footprint of the beam will be at significant risk. 29 A third great limitation of some types of directed-energy weapons is that they are highly susceptible to degradation by the atmosphere in the presence of obscurants, whether natural or manufactured, such as dust, clouds, rain and smoke. Another potential limitation is damage or performance-degrading assessments. Due to little directly-observable feedback from the target as to the effects of a hit, one may not know positively if a directed-energy weapon has been successful.30 The last concern regarding directed-energy weapons is related to their usage against allied forces. High-powered microwave weapons may be relatively simple for terrorist forces (and others) to acquire and use in an asymmetric manner. In order to counter this, all electronic platforms and weapon systems must be hardened and shielded. Table 3 summarizes the advantages and disadvantages of directed-energy weapons. Like their strengths, directed-energy weapons weaknesses differ from those encountered by current technologies and contribute to the impression that these weapons are very different. Like all other weapons, directed-energy weapons have limitations and problems. However, their potential influence on the current battlefield strategies far outweighs their limitation E. EFFECTS ON TARGETS There are various means of affecting targets using directed-energy weapons. The following discussion includes some of the commonly used terms to discuss these various means. Deny is a temporary action, and it is defined as the ability to eliminate the enemy’s operational capacity without inflicting harm, whereas degrade means to achieve this impact with minimal injury on the enemy systems. Deny and degrade are both similar in that they both are non-permanent and affected systems will return to normal operation within a period of time. 24 The concept of damage involves moderate injury to incapacitate the enemy systems for a certain period of time. This action may be permanent, depending upon the severity of the attack. Finally, destroy reflects the idea of permanent injury on the enemy systems which would be require total replacement. 31 In principle, depending on some conditions such as distance between the weapon and target, generated power, and target-hardening level, directed-energy weapons affect their targets through either a soft-kill or a hard-kill. 1. Soft-Kill A soft-kill is achieved when the effects of a directed-energy weapon stops operation of the target system temporarily. As is understood from their definitions above, deny, degrade, and some damage effects are the practical methods of a soft-kill mechanism. Disrupting the electronics of a guided missile, causing it to miss its target, or suppressing or damaging visible, infrared, and microwave sensors might be given as examples of a soft-kill. The results are a temporary loss of function, but they can seriously compromise operational success. A soft-kill by directed-energy weapons against human targets means painful stimulation of human nerves, hearing or skin. After brain tissue absorbs an electromagnetic pulse, it slightly but rapidly expands and produces a supersonic wave which is received by the inner ear. If this pulse of energy exceeds a certain threshold and the supersonic wave is too strong, the human ear will not function. 32 The Active Denial System, discussed in a later chapter, is an example of a directed-energy weapon which uses a soft-kill mechanism by heating up the skin's surface 2. Hard-Kill Like conventional weapons, directed-energy weapons can defeat their targets by causing physical damage to the structure of the targets. A hard-kill is achieved when sufficient energy is delivered into the target system, such that it is permanently damaged or destroyed. 33 Destroying a ballistic missile with an airborne laser during its boost phase by heating, melting, or vaporizing its skin is an example of a hard-kill. A hard-kill can include: • Structural damage • Melting of components • Shorting out electronics • Fusing and immobilizing moving parts Directed-energy weapons have adjustable kill mechanisms as well as both hardkill and soft-kill capacities, which makes them unique in comparison to kinetic energy weapons. Instead of only destroying targets, directed-energy weapons have soft-kill potential which enables temporary damage and degradation.

Solvency – Deterrence

**A space based missile defense system demoralizes threats**

Dinerman 08 (Taylor, Space-based missile defense and the psychology of warfare, journalist specializing in sapce  
Monday, September 8, 2008, “The space review” <http://www.thespacereview.com/article/1205/1>

It is exactly this need for revenge that should get the attention of those in the US government who are trying to design a realistic missile defense policy for the next fifty years. Tyrannical regimes and terrorist movements share the need to excite people with dramatic and violent events. The more spectacular the attack, the better. Firing long-range missiles at an enemy, even if you only hit an empty parking lot, can provide followers with a level of emotional satisfaction. This in turn can motivate them to continue to fight even in a seemingly hopeless battle. In future wars, those who are fighting against the West—today Iran or North Korea, tomorrow, who knows?—will use ballistic missiles not only to terrorize enemy civilian populations but to build morale among their own forces and people. Missile defense is the key to winning this critical psychological battle. As long as their missiles are being shot out of the sky, claims that they are hurting the enemy and thus filling people’s need for revenge can be shown to be utterly empty. This, however, cannot be done with terminal phase defense weapons. To hit a missile or a warhead that is descending towards its target may be a feat of technological skill, but it does nothing to decrease the emotional satisfaction that comes from striking a hated enemy. Midcourse interceptors such as the US GBI or the Israeli Arrow are better, but the best way to publicly humiliate those who are launching Scud-type missiles is to shoot them down as soon after they leave the launch pad as possible. The only weapon now in development that will—in theory—be able to do this is the Airborne Laser (ABL), which the Missile Defense Agency plans to test next year. This is indeed a promising system, but it has its limits. Its range is, according to unclassified reports, about 300 kilometers, and the US only plans to build, at most, seven aircraft. If the goal is to prevent the enemy from using its missile attacks to build its own side’s morale and thus lengthen the war, another solution must be found. Space-based interceptors, such as a new version of the Brilliant Pebbles program that was canceled in 1993, could, in combination with space- and ground-based sensors, knock down missiles of this type in the boost phase. Significantly, they would do so over the launching country’s own territory and at least some of the citizens would witness the destruction of their leader’s vengeance weapons. This news would spread through word of mouth. This might be one of the keys to undermining their will to make war and help shorten the conflict.

Space Lasers protect the US

Lambakis 07 (Steven national security and international affairs analyst specializing in space power and policy studies, Missile Defense From Space A more effective shield February 1, 2007 [policy review](http://www.hoover.org/publications/policy-review) » [no. 141](http://www.hoover.org/publications/policy-review/5224)

<http://www.hoover.org/publications/policy-review/article/6124>)

While space assets generally follow predictable orbital paths, they do provide a unique form of mobility — they can be present and persistent over many places on the globe. Indeed, in 2007, the Missile Defense Agency will begin demonstrations with two satellites hosting sensors designed to provide very fine surveillance and tracking data on in-flight ballistic missiles and payloads. A constellation of these satellites would become the sensor backbone of a global missile defense capability and would make possible the global mission endorsed by the Bush administration: the protection of the United States, its deployed forces, and allies and friends. Similarly, a space-based interceptor layer would enable a global on-call missile defense capability and a timely response to rapidly evolving threats, even threats emanating from unpredicted locations with very different azimuths from those we plan to be able to defeat today.10 A space-defense capability also would allow the country to engage longer-range threats originating from deep within the interior of a threat country.

Solvency – Deterrence

Only the plan solves – Development of SBMD deters all threats

Frederick 2009 Lorinda A.**Frederick**, Lieutenant Colonel in the Air Force Space Command, Masters in Advanced Air and Space Studies,**09** [Air & Space Power Journal, Volume 23, No. 3, “Deterrence and Space-Based Missile Defense”, Fall 2009, http://www.airpower.au.af.mil/airchronicles/apj/apj09

/fal09/frederick.html#frederick (Ghosh)]

Cooperation on missile defense initiatives could increase global stability. By banding together in coalitions, countries can deter war by repelling an attack against any member.52 States and rogue elements will not be able to strike surreptitiously if they know that the international community could quickly discern the origin of any launch and compute potential impact points. Attempts by a rogue element to destabilize the region through the attribution of attacks to a state may initially promote the rogue elements own agenda. However, data provided by missile defense and other sensors can refute such claims. The shared international ability to identify launch and impact points might deter states and rogue elements from launching in the first place. The more nations cooperate with each other, the more stable the world becomes. Policy makers need to invest in the development of many different capabilities, includingSBMD, to negate missiles in their boost phase and use the information gleaned from these developments to inform decisions. One approach involves bringing a system to the prototype stage for testing and accurately gauging its performance. This approach could let the United States invest in only a limited number of prototypes, thus deferring large-scale production to allow further research, development, and testing. These efforts could decrease the risk of failure during production and deployment.53 When the need arises, the United States should capitalize on preexisting prototypes as long as the industrial base could support rapid production. By funding R&D for SBMD, the UnitedStateswould ensure the viability of these technologies. The DOD cannot expect developments in commercial industry to be available for national security purposes. Competitive pressures force industry to fund near-term R&D programs and choose near-term survival over long-term possibilities.54Applied research into SBMD technologies would allow the UnitedStatesto gain more knowledge about boost-phase defenses. America will get as much R&D in SBMD technologies as it is willing to fund..

Solvency – Lasers Good

20 SBLs would effectively protect America from ballistic missiles

Claremont Institute July 18, 2011 (Claremont Institute “Space Based Laser (SBL)” 7/18/11, <http://www.missilethreat.com/missiledefensesystems/id.57/system_detail.asp>) EH

Technical challenges aside, a fully operational 20-satellite constellation of SBLs would provide the United States with an effective means of eliminating large quantities of enemy missiles. In addition to providing continuous global coverage, SBL would take between one and ten seconds to destroy each missile and as low as 0.5 seconds to lock on to its next target (depending on the range). In other words, SBL would be able to respond instantaneously and comprehensively to missiles launched from anywhere on the globe. It is estimated that a 20-satellite constellation would destroy almost all threats, while a 12-satellite constellation would eliminate 94 percent. An added benefit of SBL is that it would force aggressors to think twice before launching nuclear, chemical, and biological warheads, since the destruction of a ballistic missile in its boost phase would cause payload debris to rain down on its launcher’s own territory. Despite its manifest advantages, the future of SBL remains uncertain. In 2002, MDA suspended research and development in order to concentrate on other components of the Ballistic Missile Defense System. At present, no decision has been made to deploy an operational SBL as part of a nationwide missile shield. Yet the fact remains that SBL’s potential to instantaneously destroy almost all missiles launched against the United States would force terrorists and aggressive nations to abandon their ballistic missile programs—since SBL would render them essentially useless.

Space Based Lasers are the cornerstone of SBMD

Claremont Institute July 18, 2011 (Claremont Institute “Space Based Laser (SBL)” 7/18/11, <http://www.missilethreat.com/missiledefensesystems/id.57/system_detail.asp>) EH

The Space-Based Laser (SBL) is one of the United States’ most daring and sophisticated anti-missile projects. As envisioned, it would consist of a 20-satellite constellation orbiting the globe at altitudes of 1,300 kilometers, each satellite equipped with a high-energy chemical laser that would detect, track, target, and destroy hostile ballistic missiles at the speed of light. SBLs would be capable of destroying enemy missiles of all sizes just after they have been launched, i.e. during the vulnerable boost phase when missiles are large and slow moving. By eliminating large numbers of incoming warheads quickly and efficiently, SBL would significantly reduce the burden on midcourse and terminal phase defenses. If completed, the SBL constellation would be the most important “layer” of the broader Ballistic Missile Defense System.

Solvency – Timeframe

**The time to act is now – the threats are high and limits are minimal**

Belfer, Center for Science and International Affairs, 2005 (William Marshall, George Whitesides, Robert Schingler, Andre Nilsen & Kevin Parkin “Space Weapons: The Urgent Debate,” Belfer Centre for Science and International Affairs, Kennedy School, Harvard University, Released in 2005)

There is an urgent need for a discussion on the future military uses of space for several reasons. First, the technology for developing and deploying weapons systems in space is already available in major space faring nations. Second, conflicts are beginning to arise over space-based assets, both for economic and security reasons. Thirdly, there are few legal restrictions on the use of space weapons. Finally, a number of political and military leaders in some major powers have expressed their support for the deployment of space weapons. Deployment could therefore be imminent. Moreover, the stakes are high since once deployed, it may be impossible to eliminate space weapons, even if they prove unsuitable or destabilising. However, given that deployment has not yet taken place, we have a unique opportunity for thinking through these issues now. The challenge is to find a way of managing space that avoids the ‘tragedy of the commons’, whereby the pursuit of individual rationality by every state leads to a collectively worse outcome for everyone. The costs and gains of space weapons must therefore be addressed in a comprehensive and balanced debate. In synopsis, short term advantages from acquiring offensive space weapons must be weighed against the medium and long term consequences of deployment, most importantly the risk of a destabilising arms race in space. This article, the result of collaboration among a military officer, space professionals, and a political scientist, seeks to put the question of space weapons firmly on the security agenda of the 21st century. To that end, we offer a framework of analysis that places the issue of space weapons in appropriate technological, economic, political, and strategic contexts. A decision to deploy space weapons would not face many constraints, whether technological or legal. After years of development, the technology required for space weapons is now feasible, albeit still expensive. Both the US and Russia have the capability to deploy advanced space weapons in a matter of years. Several other nations have the capability to launch lower technology space weapons in a similar timeframe. The Reagan and Bush I administrations funded, on the order of ten billion dollars, a variety of initiatives which laid the groundwork for contemporary space weapons systems. As a result, the development and deployment of space weapons, is no longer a technological challenge, but a question of political will. The legal framework governing space weapons is minimal. The only explicit rules regarding space weapons are those prohibiting conventional weapons on celestial bodies and weapons of mass destruction everywhere in space. Conventional space weapons are therefore legal as long as they are based on a satellite rather than the moon. The legal framework has been further weakened by the abolition of the Anti-Ballistic Missile Treaty. Law is therefore no obstacle to deployment. At the same time as the technological and legal constraints on deployment are abating, the incentives are mounting. The critical role that space has become to play, in both civil and military activity, has created the potential for future conflict. The US military is now dependent on space assets to wage its preferred style of war. Perhaps even more important, the economic benefits of the Global Positioning System (GPS) and other space-based technologies gives the US and other countries a substantial interest in maintaining, protecting, and augmenting those assets. Discord between peer competitors, such as the one surrounding Galileo, the European satellite navigation system, are seen by some as early seeds of greater conflict. Other conflicts have arisen due to differences of opinion over the distribution of reconnaissance data and in controversies over the use of radio spectra. The effect of all these developments is that space policy is being increasingly securitised and framed as a core national interest. Against the backdrop of waning constraints and rising incentives, it is no surprise that political will is emerging. There have recently been prominent voices within the US military (US Space Command Master Plan 2001 and Air Force 2025) and political (Commission to Assess United States National Security Space Management and Operations, Rumsfeld, 2000) leadership in favour of considering the acquisition of space weapons. In the US military document ‘Vision 2020’, for instance, it is argued that the United States should seek capacity to operate freely within all technological domains of land, sea, air, space, and information. A decision on deployment could therefore be impending.

Solvency – War

SBLs are the only form of missile defense that can prevent nuclear, chemical, and biological attacks

Hardesty 2005Captain David C. is is a member of the faculty of theNaval War College’s Strategy and Policy Department ’05 (Naval War College Review, “Space-Based Weapons: Long-Term Strategic Implications and Alternatives”, Spring 2005,)

Space-based weapons, like all space systems, are predictable and fragile, but they represent significant combat power if used before they are destroyed— leading to a strong incentive to use these weapons preemptively, to “use them or lose them.” The problem is further complicated by the difficulty in knowing what is occurring in space. As the Commission to Assess United States National Security Space Management and Organization pointed out: Hostile actions against space systems can reasonably be confused with natural phenomena. Space debris or solar activity can “explain” the loss of a space system and mask unfriendly actions or the potential thereof. Such ambiguity and uncertainty could be fatal to the successful management of a crisis or resolution of a conflict. They could lead to forbearance when action is needed or to hasty action when more or better information would have given rise to a broader and more effective set of responsive options. 10 This lag in situational awareness can increase the effectiveness of attacks. That is, striking first is likely to mean inflicting disproportionate losses on the enemy; waiting increases the chances of suffering disproportionate losses oneself. SPACE-BASED WEAPON CONCEPT S : ADVANTAGES , I S SUES , AND REACTION If technical and fiscal challenges are overcome, there is little doubt that an integrated combination of airborne, terrestrial, and space-based lasers with orbiting relay mirrors would be a flexible weapons constellation. Striking at 186,000 miles a second, laser weapons and mirrors help overcome the problems posed by the large distances and high speeds for targeting in and from space. 11 Perhaps they would be most effective at space control, but they would also be useful for boost-phase intercept of ballistic missiles. This is a critical missile-defense function, particularly when dealing with nuclear, chemical, or biological warheads. If not destroyed in boost, nuclear-tipped missiles may deploy decoys, and chemical or biological warfare payloads might be broken into small, separate submunitions or canister reentry vehicles, each of which is a lethal weapon that must be destroyed. 12 In such cases there is a high likelihood that defenses would be overwhelmed. Evolutionary Air and Space Global Laser Engagement (EAGLE) Space-based systems would be logical for this important mission.

\*\*\*Asteroids\*\*\*

Asteroids 1AC (1/3)

As asteroid can hit within 15 minutes of detection. Absent a defense system, extinction is inevitable.

Globus 2011 (Al, “Lifeboat Foundation” AsteroidShieldSenior Research Associate for Human Factors Research and Technology at San Jose State University at NASA Ames Research Center <http://lifeboat.com/ex/asteroid.shield>) AW

If we don't do something, sooner or later Earth will be hit by an asteroid large enough to kill all or most of us. That includes the plants and animals, not just people. Maybe this won't happen for millions of years. Maybe in 15 minutes. We don't know. For example, on 23 March 1989 asteroid 1989FC with the potential impact energy of over 1,000 megatons (roughly the equivalent a thousand of the most powerful nuclear bombs) missed Earth by about six hours [1]. We first saw this fellow after closest approach. If 1989FC had come in six hours later most of us would have been killed with zero warning. It's unlikely, but a large comet or asteroid could impact the Earth in 15 minutes and eventually we will be be hit, for sure. We are hit by thousands of smaller asteroids every year and we don't see any of them before the collision. Detection of larger, Earth-threatening rocks is very far from complete. At the present rate it will take years before we find just 90% of them. Beside these inevitable cosmic disasters the long list of potential human-induced potential calamities — nuclear war, ecological collapse, global warming, epidemics, etc. — are less certain and far less dangerous, although much more likely in the near term. After all, the worst of these would probably kill less than three quarters of the people on the planet. A good sized asteroid will get us all.

Asteroids 1AC (2/3)

**We control all probability and magnitude. There is 100% probability of an asteroid collision and even a small one causes Hiroshima type damage.**

Globus 2011 (Al, “Lifeboat Foundation” AsteroidShieldSenior Research Associate for Human Factors Research and Technology at San Jose State University at NASA Ames Research Center <http://lifeboat.com/ex/asteroid.shield>) AW

Hiroshima Level Impact We have been warned. In October of 1990 a very small asteroid struck the Pacific Ocean with a blast about the size of the first atomic bomb; the one that leveled Hiroshima, Japan killing roughly 200,000 people in seconds. If this asteroid had arrived ten hours later it would have struck in the middle of more than a million U.S. and Iraqi soldiers preparing for war. It could have struck near U.S. forces. The U.S. would have thought Iraq attacked with a nuclear weapon. America would have used its immense nuclear arsenal to turn Iraq into a radioactive wasteland, and even one nuclear bomb can ruin your whole day. Don't worry though, these small asteroid strikes only happen about once a month [[3](http://lifeboat.com/ex/asteroid.shield#3)]. Besides, it gets worse. Hydrogen Bomb Level Impact In 1908 a small asteroid (perhaps 50 meters across) hit Tunguska, Siberia and flattened 60 million trees. That asteroid was so small it never even hit the ground, just exploded in mid-air. If it had arrived four hours and fifty-two minutes later it could have hit St. Petersburg [[3](http://lifeboat.com/ex/asteroid.shield#3)]. At the time St. Petersburg was the capital of Russia with a population of a few hundred thousand. The city would have ceased to exist. As it was, dust from the blast lit up the skies of Europe for days. Asteroid strikes this size probably happen about once every hundred years. However, this is just an average. Just because we got hit once doesn't mean we're safe for another hundred years. Indeed, there was another Tunguska-class strike in the Brazilian rain forest on 13 August 1930 [[3](http://lifeboat.com/ex/asteroid.shield#3)]. But don't worry, it gets worse. Greater than Earth's Entire Atomic Arsenal Level Impact It's not just Earth. In 1178 our Moon was hit by an asteroid creating 120,000 megatons explosion (about six times the force of Earth's entire atomic arsenal). The collision dug a 20 km (12 mile) crater. This strike was recorded by a monk in Canterbury, England. We are extremely lucky it didn't hit us. The moon is a smaller target and has much less gravity to attract an impactor. If a 120,000 megaton blast had hit the Earth our history would have been dramatically different. Catastrophes of this magnitude happen on Earth perhaps once every 1,000 years or so. We're just lucky the last one hit the Moon instead. Fifty Times the Earth's Entire Atomic Arsenal Level Impact: A Billion Dead There are about 1,000 asteroids a kilometer or more in size that cross Earth's orbit (the path Earth takes around the Sun). About a third of these will eventually hit Earth [[2](http://lifeboat.com/ex/asteroid.shield#2)] if we don't do something about it. An asteroid strike this large can be reasonably expected to kill a billion people or so, depending on where it hits. A strike in China or India will kill more, in Antarctica less. Even a strike in the ocean would create a tsunami so enormous most people living near the coast would be drowned. A strike of this size is expected about once every 300,000 years or so. We might as well be playing Russian roulette. Admittedly, the revolver has 300,000 cylinders, but if we keep pulling the trigger long enough we'll blow our head off, and there's no guarantee it won't be the next pull. But don't worry, it gets worse. Ten Thousand Times the Earth's Entire Atomic Arsenal Level Impact but Hit Jupiter Instead... The most recent large strike also missed Earth. In July 1994, the comet Shoemaker-Levy 9 plowed into Jupiter. The comet broke up into roughly 20 large pieces before contact, but when the pieces hit they left a string of enormous explosions clearly visible to our telescopes. The scale of the destruction was staggering. Each impact was the equivalent of about 10 million megatons of TNT. If Shoemaker-Levy had hit Earth instead of Jupiter, in the extremely unlikely event you were alive you certainly wouldn't be reading this report. You'd spend every waking moment trying to survive. But don't worry, it gets worse. Ten Thousand Times the Earth's Entire Atomic Arsenal Level Impact and it Hit Us! Sixty-five million years ago a huge asteroid several kilometers across slammed into the Yucatan Peninsula in Mexico. The explosion was the equivalent of about 200 million megatons of dynamite, about the equivalent of all 20 pieces of Shoemaker-Levy. The blast turned the air around it into plasma — a material so hot electrons are ripped from the atomic nucleus and molecules cannot exist. This is the stuff the Sun is made of. Enormous quantities of red-hot materials were thrown into space, most of which rained down worldwide burning literally the entire planet to a crisp. Anything not underground or underwater was killed. Evidence gathered by the University of Colorado at Boulder suggests that all the dinosaurs above ground were incinerated in a few hours reference. Surprisingly, only about 75% of the plant and animal species on Earth were exterminated. What's surprising is that everything wasn't wiped out. This scenario has been repeated over and over, perhaps once every 100 million years or so. Each collision killed up to 95% of all species on Earth. As many as two-thirds of all species that ever existed may have been terminated by asteroids hitting the Earth. Ocean Impact We know about the asteroid that killed the dinosaurs because we found the crater. But what happens when an asteroid hits the ocean? After all, oceans cover two-thirds of the Earth's surface. Most asteroid strikes must be in water. Unless the asteroid is very large there won't be a crater. However, if you drop a rock into a lake it makes a wave. The larger the

Asteroids 1AC (3/3)

rock the bigger the wave. Drop a 400 meter (three football fields) diameter asteroid into the Atlantic Ocean and you get a tsunami 60 meters (yards) high [[4](http://lifeboat.com/ex/asteroid.shield#4)]. Do that today and beach side property values will plummet due to the sudden and complete absence of any people or buildings. Almost every human culture has a flood story (for example, Noah's Ark). These may be the living memory of asteroids hitting the oceans. This is not idle speculation, there are several hundred thousand asteroids in near Earth orbits large enough to cause world-wide casualties by creating tsunamis [[1](http://lifeboat.com/ex/asteroid.shield#1)]. Of course, if the asteroid is big enough, even a hit in the ocean will rearrange the Earth's crust. Researchers from the University of Toronto and the Geological Survey of Canada determined that an asteroid the size of Mt. Everest probably hit the Earth about 1.8 billion years ago, and literally turned part of the Earth inside out [[5](http://lifeboat.com/ex/asteroid.shield#5)]. The crater is about 250 kilometers (156 miles) wide. It's amazing that anything survived at all, but somehow a few of our single-celled ancestors lived through the ensuing hell. Life started on Earth over 3 billion years ago, but no large animals appeared until about 700 million years ago —

Space-Based lasers are key to detecting and avoiding asteroids

Hindustan Times March 20, 2007 Tuesday 12:24 PM EST Lightweight lasers can eliminate Earth-striking asteroids Report from the Asian News International brought to you by the Hindustan Times Nexis AW  
  
Researchers at the University of Alabama in Huntsville have claimed that a lightweight, space-based laser has the potential to eliminate dangerous asteroids posing a threat to Earth. According to says Richard Fork, the head of the Laser Science and Engineering Group at the university, the technique could detect and deflect space rock away. "Though the technology may take two decades or so to mature, this is something that is doable," Fork is quoted, as saying. One of the great advantages of using lasers is that their beams remain relatively tightly focused over long distances, allowing them to study asteroids from farther away than is currently possible. Previously, researchers had proposed several methods to save Earth from an asteroid impact. These included blowing it up with a nuclear bomb or putting a spacecraft beside it so the craft's gravity could tug the asteroid off course. But these solutions had their drawbacks. A laser, on the other hand, could give researchers an advance warning of the asteroid's likely composition and exact shape, which would help them figure out how to move it. In fact, the laser itself could also do the moving. If its short pulses were focused on a centimetre-sized spot on the asteroid, they would repeatedly pulverise material, ejecting tiny bits of space rock at 10 kilometres per second. This would function as the asteroid's propellant, pushing it into a different orbit - and safely away from Earth. "It really doesn't take much of a push provided you do that early," Fork told New Scientist. "The key thing is to act early on," Fork added. According to Fork, several major technical hurdles need to be overcome before such a system could be put in place. For instance, if the spacecraft is used to characterise asteroids, it would require an antenna about 30 metres across to transmit the laser's light. If on the other hand, the spacecraft is simply intended to deflect asteroids, it would not need such a large antenna, but engineers would still have to find a way to make existing laboratory lasers - which are heavy - more lightweight to launch them on a spacecraft about the size of a truck. At the moment, Fork and his team are developing a titanium-sapphire laser capable of pulverising materials with its pulses. They hope their laser could be the grandfather' of a laser that might one day come to the aid of humanity. There is a small chance such a life-saving laser would be needed in 2029, when the asteroid Apophis will make a close swing by Earth. If it passes through a specific region of space just 600 metres across at that time, there is a 1 in 45,000 chance it could hit Earth - perhaps slamming into the Pacific Ocean - on 13 April 2036. If a laser spacecraft were going to be ready to deflect Apophis before it could reach the 600-metre-wide keyhole' in 2029, the government would have to start funding the mission now, says Fork.

Space lasers can be used to defect asteroids and other NEO’s

Mazanek et al. 2005 (Daniel D. Mazanek, Langley Research Center, Hampton, Virginia, Comet/Asteroid Protection System (CAPS): Preliminary Space-Based System Concept and Study Results, NASA Study, <http://www.nss.org/resources/library/planetarydefense/2005-CometAsteroidProtectionSystem%28CAPS%29-NASA.pdf> accessed 7/18/2011)

Many methods for altering the trajectory of a comet or asteroid have been proposed (ref. 1), but the most feasible approaches require a spacecraft to intercept or rendezvous with the target. Given a spacecraft with an advanced propulsion system (such as plasma or nuclear) capable of rapid rendezvous with the target, one deflection approach would be to physically attach to the object and thrust in the proper direction to change the object’s orbit. There are many technical issues associated with this approach, but the one that is fundamentally limiting is the propellant required. Providing large quantities of propellant to permit a rapid rendezvous or intercept is difficult, but delivering enough propellant to alter the orbit of a massive asteroid or comet nucleus is impractical for an immediate threat. This situation is also possible for large NEAs found many years before impact; although the required ΔV is small, they can be extremely massive. One approach that can circumvent this problem and alter the trajectory of the object in a highly controlled manner is to use pulsed laser ablative propulsion. A sufficiently intense laser pulse ablates the surface of the NEO by causing plasma blow off. The spacecraft would station-keep with the object at a “small” standoff distance while the laser ablation is performed. The momentum change from a single laser pulse is very small; however, the cumulative result is very effective because the laser can interact with the object over significant periods of time. The laser ablation technique can overcome the mass penalties associated with other nondisruptive approaches because no propellant is required to generate the ΔV (the material of the celestial object is the propellant source). Additionally, laser ablation is effective against a wide range of surface materials and does not require any landing or physical attachment to the object.

Asteroids – They’re Coming

**The Earth falls victim to near misses roughly two to three times a week – the aff is try-or-die**

Bryson ’03(Bill, Travel and Sciences author and chancellor of Durham University, in his book: A Short History of Nearly Everything DOA: 7/19/11 ARW)

The first one wasn’t spotted until 1991, and that was after it had already gone by. Named 1991 BA, it was noticed as it sailed past us at a distance of 106,000 miles-in cosmic terms the equivalent of a bullet passing through one’s sleeve without touching the arm. Two years later, another, somewhat larger asteroid missed us by just 90,000 miles-the closest pass yet recorded. It, too, was not seen until it had passed and would have arrived without warning. According to Timothy Ferris, writing in the New Yorker, such near misses probably happen two or three time a week and go unnoticed.

Asteroids – Solvency

Space based lasers are cheaper, faster, and easier than any other alternative

Campbell et al. No Date (Dr. Jonathan W. Campbell, Advanced Space Flight Projects, NASA/MSFC, The IMPACT IMPERATIVE - Laser Ablation For Deflecting Asteroids, Meteoroids, And Comets From Impacting The Earth, http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20020092012\_2002153483.pdf)

In contrast, laser deflection offers instant response, agility, and low cost compared to the nuclear alternative. Lasers do not have to be transported to the target. Laser deflection is also attractive relative to putting nuclear weapons in orbit, a suggestion that may not be embraced by the general public. Laser deflection uses the thrust produced by a jet produced on the surface of the NEO by laser ablation [Phipps 1992-5, 1997-8].

Focusing lasers on a NEO can alter its orbit

Planetary Defense Conference 2009 (WHITE PAPER, KEY POINTS AND RECOMMENDATIONS FROM THE 1ST IAA PLANETARY DEFENSE CONFERENCE HELD 27-30 APRIL 2009 GRANADA, SPAIN, <http://www.nss.org/resources/library/planetarydefense/WhitePaper-2009PlanetaryDefenseConference.pdf> accessed 7/18/2011)

Slow push technologies such as focusing solar or laser energy on a NEO, reducing or even canceling the Yarkovsky effect, or the Gravity Tractor have the potential to alter the orbit of a threatening object, but none has been tested and no campaign designs using these techniques have been presented. Focusing solar and laser energy on the surface of a NEO will generate plumes of material that may affect the overall effectiveness of these techniques. These types of effects have not been investigated.

Space Based Ballistic Missile Defense is better than current asteroid technology

Young 2007 (Kelly, Writer for New Scientist Online “Could lasers zap away dangerous asteroids?” http://www.newscientist.com/article/dn11413-could-lasers-zap-away-dangerous-asteroids.html)

One of the great advantages of using lasers is that their beams remain relatively tightly focused over long distances, allowing them to study asteroids from farther away than is currently possible. Today, observatories such as Arecibo in Puerto Rico bounce radar off asteroids to characterise them and track their orbits. But they can only study objects from a distance equivalent to 0.1 times that between the Earth and the Sun. A laser could examine the features of an asteroid from 10 times as far away. That could give researchers advance warning of the asteroid's likely composition and exact shape, which would help them figure out how to move it. The laser itself could also do the moving. If its short pulses were focused on a centimetre-sized spot on the asteroid, they would repeatedly pulverise material, ejecting tiny bits of space rock at 10 kilometres per second. This would function as the asteroid's propellant, pushing it into a different orbit - and safely away from Earth. From several kilometres away, each laser could operate on 25 to 40 kilowatts of power to zap a space rock

Asteroids – Impact extension

Extinction

Campbell 2000 (Jonathan W. Colonel in the United States Air Force Reserve and a the project manager on Project ORION that explored the feasibility of using lasers to remove orbital debris. “Using Lasers in Space” http://www.au.af.mil/au/awc/awcgate/cst/csat20.pdf)

Astronomical telescopes and deep space radar systems have observed the existence of at least 2000 Near Earth Objects (NEO), such as asteroids and comets, which potentially could destroy most life on Earth. An asteroid with a diameter of 0.2 km would strike the Earth with a power rivaling the strength of a multiple warhead attack with the most powerful hydrogen bombs. This strike would throw’ up a cloud of dust rivaling the most powerful volcanic explosion, which would seriously affect climate on the scale of two to three years. A strike by a larger asteroid, say 1 km, (especially in the ocean) would create a gigantic tsunami that would flood and obliterate coastal regions. More significantly it would eject a massive dust cloud that would alter cur biosphere to the point that life as we know it would cease to exist with no chance of recovery within the near term

We have to act now to avert future tragedy. The Aff is try or die

Young 2007 (Kelly, Writer for New Scientist Online “Could lasers zap away dangerous asteroids?” http://www.newscientist.com/article/dn11413-could-lasers-zap-away-dangerous-asteroids.html)

There is a small chance such a life-saving laser would be needed in 2029, when the asteroid Apophis will make a close swing by Earth. If it passes through a specific region of space just 600 metres across at that time, there is a 1 in 45,000 chance it could hit Earth - perhaps slamming into the Pacific Ocean - on 13 April 2036. If a laser spacecraft were going to be ready to deflect Apophis before it could reach the 600-metre-wide 'keyhole' in 2029, the government would have to start funding the mission now, says Fork. "The chances of having it ready for the Apophis push are extremely small unless there was a sudden burst of enthusiasm for doing the laser push," he told New Scientist.

**Meteors are the single greatest threat to the Earth**

**Kazan and Sato 09** (Casey and Rebecca, Writers for dailygalaxy.com “Stephen Hawking: “Asteroid Impacts Biggest Threat to Intelligent Life in the Galaxy”” http://www.dailygalaxy.com/my\_weblog/2009/06/the-neo-code-hotspots-most-at-risk-of-an-asteroid-impact.html)

It is thought the collision of a rather smaller body with the Earth, about 70 million years ago, was responsible for the extinction of the dinosaurs. A few small early mammals survived, but anything as large as a human, would have almost certainly been wiped out. Through Earth's history such collisions occur, on the average every one million year. If this figure is correct, it would mean that intelligent life on Earth has developed only because of the lucky chance that there have been no major collisions in the last 70 million years. Other planets in the galaxy, Hawking believes, on which life has developed, may not have had a long enough collision free period to evolve intelligent beings. “The threat of the Earth being hit by an asteroid is increasingly being accepted as the single greatest natural disaster hazard faced by humanity,” according to Nick Bailey of the University of Southampton's School of Engineering Sciences team, who has developed a threat identifying program.[ Image: Comet Shoemaker-Levy 9 collision with Jupiter] The team used raw data from multiple impact simulations to rank each country based on the number of times and how severely they would be affected by each impact. The software, called NEOimpactor (from NASA's "NEO" or Near Earth Object program), has been specifically developed for measuring the impact of 'small' asteroids under one kilometer in diameter. Early results indicate that in terms of population lost, China, Indonesia, India, Japan and the United States face the greatest overall threat; while the United States, China, Sweden, Canada and Japan face the most severe economic effects due to the infrastructure destroyed. The top ten countries most at risk are China, Indonesia, India, Japan, the United States, the Philippines, Italy, the United Kingdom, Brazil and Nigeria. “The consequences for human populations and infrastructure as a result of an impact are enormous,” says Bailey. “Nearly one hundred years ago a remote region near the Tunguska River witnessed the largest asteroid impact event in living memory when a relatively small object (approximately 50 meters in diameter) exploded in mid-air. While it only flattened unpopulated forest, had it exploded over London it could have devastated everything within the M25. Our results highlight those countries that face the greatest risk from this most global of natural hazards and thus indicate which nations need to be involved in mitigating the threat.” What would happen to the human species and life on Earth in general if an asteroid the size of the one that created the famous K/T Event of 65 million years ago at the end of the Mesozoic Era that resulted in the extinction of the dinosaurs impacted our planet. As Stephen Hawking says, the general consensus is that any comet or asteroid greater than 20 kilometers in diameter that strikes the Earth will result in the complete annihilation of complex life - animals and higher plants. (The asteroid Vesta, for example, one of the destinations of the Dawn Mission, is the size of Arizona).

\*\*\*China Advantage\*\*\*

Advantage (\_) is the Space Pearl Harbor

China 1AC (1/4)

Advantage (\_) is China Aggression

Chinese analysts have already concluded American development of space as a threat – they’ll inevitably weaponize unless deterred.

Hagt 2007 (Eric, director of the China Program at the World Security Institute, in Washington, D.C. and Beijing, His research interests include Sino-U.S. relations in the field of space, energy and a range of non-traditional security issues, China Security, Winter 2007, pp. 31 – 51, <http://www.wsichina.org/%5Ccs5_3.pdf>, DOA: 7/18/2011)

In the past decade, China has derived a number of key conclusions from its observations of U.S. military activities in space that have fundamentally shaped China’s own strategic posture. The first is the profound implications of space for information and high-tech wars. China witnessed with awe and alarm the power of the U.S. military using satellite communication, reconnaissance, geo-positioning and integration capabilities for an impressive show of force beginning first with the Gulf war in 1991 to the recent campaign in Afghanistan and Iraq.1 The U.S. military’s almost complete dependence on space assets has also not escaped the close examination of Chinese analysts.2 Coupled with a number of key U.S. policy and military documents that call for control in space and the development of space weapons as well as the U.S. refusal to enter into any restrictive space arms control treaty, China has concluded that America is determined to dominate and control space.3 This perceived U.S. intent leads Beijing to assume the inevitable weaponization of space.4 Even more worrisome for China is the direct impact of these developments on China’s core national interests. The accelerated development of the U.S. ballistic missile system, especially as it is being developed in close cooperation with Japan, has been cited as threatening China’s homeland and nuclear deterrent.5 The ‘Shriever’ space war games conducted by the U.S. Air Force in 2001, 2003 and 2005 strongly reinforced the conclusion that U.S. space control sets China as a target.7 Most central to China’s concerns, however, is the direct affect U.S. space dominance will have on China’s ability to prevail in a conflict in the Taiwan Straits. As U.S. military space developments have evolved, China’s observations and subsequent conclusions have engendered a fundamental response: we cannot accept this state of affairs. For reasons of defense of national sovereignty as well as China’s broader interests in space – civilian, commercial and military – America’s pursuit of space control and dominance and its pursuit to develop ASATs and space weapons pose an intolerable risk to China’s national security.9

The perception of US vulnerability in space is THE internal link to chinese weaponization and aggression

Pollpeter ’05 ( Kevin L. "The Chinese Vision of Space Military Operations." China's Revolution in Doctrinal Affairs: Emerging Trends in the Operational Art of the Chinese People's Liberation Army. Ed. David M. Finkelstein. Alexandria, VA: CNA Corporation, December 2005. [ 9 quotes ] [ page 369 ]), http://spacedebate.org/argument/2580

Whether the U.S. military is overly reliant on space systems may be inconsequential. The perception that space warfare is inevitable and that the U.S. military is highly vulnerable to strikes against its space systems may not only be one factor that leads China to attack U.S. space assets, but it also may lead them to believe that they can conduct a successful military campaign against the United States. It has been noted by some Chinese writers that the United States does consider attacks against its space assets as an act of war, but this has not dissuaded them from advocating developing space for military uses. Consequently, China's increasing interest in the military use of space poses serious challenges to the U.S. military. The U.S. military cannot assume that in a potential armed conflict China will adopt the types of passive defenses that the U.S. military has faced in the past. This requires the U.S. government to better understand China's space program in order to identify how China will use space in armed conflict and requires the U.S. government to begin meeting the threats that China may pose to the U.S. space architecture, either through diplomacy or technology.

China 1AC (2/4)

And, Chinese ASAT development will deter the US from protecting Taiwan by exploiting asymmetric vulnerability

The Straits Times 2007 [“China takes the arms race into space; It may be testing technology it has acquired but there is a political price”, Jonathan Eyal, Jan 22 Accessed on June 24, 2011 at lexisnexis.com]

WESTERN governments have known about Beijing's space efforts for years. The challenge for intelligence services now is to guess what is China's military ultimately seeking to achieve with its reported Jan 11 anti-satellite missile test. China's successful use of what military experts call a 'kinetic kill vehicle' - a missile which destroys a target by hitting it at high speed - may look spectacular, but the technology is well-known; both the United States and the Soviet Union tested it two decades ago. Contrary to received opinion, the Russians and the Americans abandoned their tests not so much because they were worried about the impact on the environment from the large amount of debris, but more because the use of such weapons could have been misinterpreted by an opponent then as the start of a nuclear war. But the world has changed since then. The world's most advanced militaries and much of the global economy rely on satellites. America's predominance in this field is overwhelming: out of about 850 active spacecraft now orbiting the Earth, over half are US-owned. For anyone seriously interested in standing up to the US, the ability to make such satellite vulnerable is not a luxury, but a necessity. And the Chinese military has further incentives to excel in this field. For, unlike the Soviet Union, China never sought to match the Americans weapon-for-weapon but, rather, to develop 'killer' technologies which can wipe out US technological advantages. The Chinese space programme fits perfectly into such strategy. Beijing must have been aware that, by testing its missile capabilities now, it will pay a heavy political price. The chorus of condemnation is extensive, and it includes not only the US, Japan and the European Union, but also Russia, whose military edge is equally threatened. The test also sits awkwardly with repeated Chinese claims of peaceful intentions. And it undermines China's own diplomacy, which has long called for an international treaty to prevent the military use of space. So the most plausible explanation for China's test: it has acquired a technology which it has sought for more than a decade, and was keen to test it. Beijing may have calculated that the political backlash will not matter, since the Americans are already engaged in similar projects. After all, the latest US space policy, outlined in a paper released last October, declared Washington's intention to 'preserve its rights, capabilities and freedom of action in space... and deny, if necessary, adversaries the use of space capabilities hostile to US national interests'. The main Chinese objective may not be a direct confrontation with America, but just to raise the price which the US has to pay in defending Taiwan. The name of the game is what military experts call 'access denial', forcing the US to keep its distance from what Beijing considers as its regional interests. In the short-term, some of America's most important space assets are not threatened, since they fly at much higher altitudes. But the US will have to respond, in a variety of ways. These could include the launch of many smaller satellites, coupled with decoys which can fool Chinese defences. American anti-missile technology will also be improved, in order to deprive Beijing of its advantage. Hardliners in Washington are now gearing up for a new arms race. The Heritage Foundation has already suggested spending 'billions or tens of billions of dollars a year, pretty much year in and year out'. The US Administration may resist such demands for the moment. Yet there is no question that the world has just experienced a historic event. A military race has now moved into space. And America now identifies China as the only country able and willing to challenge its technological supremacy. The future looks rosy for military industries. But not for Asian stability.

China 1AC (3/4)

China will escalate the conflict – perception of rational escalation ensures US gets drawn into the nuclear arms race

Glaser, PolSci Prof at George Washington, ’11 (Charles, March/April, “Will China’s Rise Lead to War?” Foreign Affairs, Vol 90 Issue 2, EbscoHost)

ACCOMMODATION ON TAIWAN? THE PROSPECTS for avoiding intense military competition and war may be good, but growth in China's power may nevertheless require some changes in U.S. foreign policy that Washington will find disagreeable--particularly regarding Taiwan. Although it lost control of Taiwan during the Chinese Civil War more than six decades ago, China still considers Taiwan to be part of its homeland, and unification remains a key political goal for Beijing. China has made clear that it will use force if Taiwan declares independence, and much of China's conventional military buildup has been dedicated to increasing its ability to coerce Taiwan and reducing the United States' ability to intervene. Because China places such high value on Taiwan and because the United States and China--whatever they might formally agree to--have such different attitudes regarding the legitimacy of the status quo, the issue poses special dangers and challenges for the U.S.-Chinese relationship, placing it in a different category than Japan or South Korea. A crisis over Taiwan could fairly easily escalate to nuclear war, because each step along the way might well seem rational to the actors involved. Current U.S. policy is designed to reduce the probability that Taiwan will declare independence and to make clear that the United States will not come to Taiwan's aid if it does. Nevertheless, the United States would find itself under pressure to protect Taiwan against any sort of attack, no matter how it originated. Given the different interests and perceptions of the various parties and the limited control Washington has over Taipei's behavior, a crisis could unfold in which the United States found itself following events rather than leading them. Such dangers have been around for decades, but ongoing improvements in China's military capabilities may make Beijing more willing to escalate a Taiwan crisis. In addition to its improved conventional capabilities, China is modernizing its nuclear forces to increase their ability to survive and retaliate following a large-scale U.S. attack. Standard deterrence theory holds that Washington's current ability to destroy most or all of China's nuclear force enhances its bargaining position. China's nuclear modernization might remove that check on Chinese action, leading Beijing to behave more boldly in future crises than it has in past ones. A U.S. attempt to preserve its ability to defend Taiwan, meanwhile, could fuel a conventional and nuclear arms race. Enhancements to U.S. offensive targeting capabilities and strategic ballistic missile defenses might be interpreted by China as a signal of malign U.S. motives, leading to further Chinese military efforts and a general poisoning of U.S.-Chinese relations.

And, even if China remains rational, the mere prospect of a Space Pearl Harbor will cause the US to preemptively strike China – leads to all-out war.

Tellis, Senior Associate at Carnegie, 2007 (Ashley, Senior Associate @ Carnegie, Survival, Autumn, “China’s Military Space Strategy”, ingenta)

Finally, the growing Chinese capability for space warfare implies that a future conflict in the Taiwan Strait would entail serious deterrence and crisis instabilities. If such a clash were to compel Beijing to attack US space systems at the beginning of a war, the very prospect of such a ‘space Pearl Harbor’94 could, in turn, provoke the United States to contemplate pre-emptive attacks or horizontal escalation on the Chinese mainland. Such outcomes would be particularly likely in a conflict in the next decade, before Washington has the opportunity to invest fully in redundant space capabilities. Already, US Strategic Command officials have publicly signalled that conventionally armed Trident submarine- launched ballistic missiles would be appropriate weapons for executing the prompt strikes that might become necessary in such a contingency.95 Such attacks, even if employing only conventional warheads, on space launch sites, sensor nodes and command and control installations on the Chinese mainland could well be perceived as a precursor to an all-out war. It would be difficult for all sides to limit the intensification of such a conflict, even without the added complications of accidents and further misperception.

China 1AC (4/4)

US-China war bankrupts the US, drawns in rivals, and escalates to nuclear use

Chalmers Johnson, author of Blowback: The Costs and Consequences of American Empire, 5/14/2001, The

Nation, Pg. 20

China is another matter. No sane figure in the Pentagon wants a war with China, and all serious US militarists know that China’s minuscule nuclear capacity is not offensive but a deterrent against the overwhelming US power arrayed against it (twenty archaic Chinese warheads versus more than 7,000 US warheads). Taiwan, whose status constitutes the still incomplete last act of the Chinese civil war, remains the most dangerous place on earth. Much as the 1914 assassination of the Austrian crown prince in Sarajevo led to a war that no wanted, a misstep in Taiwan by any side could bring the United States and China into a conflict that neither wants. Such a war would bankrupt the United States, deeply divide Japan and probably end in a Chinese victory, given that China is the world’s most populous country and would be defending itself against a foreign aggressor. More seriously, it could easily escalate into a nuclear holocaust**.** However, given the nationalistic challenge to China’s sovereignty of any Taiwanese attempt to declare its independence formally, forward-deployed US forces on China’s borders have virtually no deterrent effect.

Only developing defensive space capabilities solves

Moltz 2003 Associate Professor and Academic Associate for Security Studies (James Clay, New Challenges in Missile Proliferation, Missile Defense, and Space Security, <http://kms1.isn.ethz.ch/serviceengine/Files/ISN/14386/ipublicationdocument_singledocument/36D8EB06-A8CB-474E-AD1E-4B55C8047526/en/op12.pdf> JH)

When the Galaxy IV communication satellite in a geostationary orbit 36,000 kilometers (km) above the United States failed catastrophically in May 1998, an estimated 80 to 90 percent of the 40 million U.S. pager customers were affected by the disruption. Internet access via the satellite was severed as well. Television feeds and news wire service transmissions were also affected.1 The failure of the onboard attitude control subsystem of the PanAmSat satellite was a rare occurrence but not an unexpected one given the harsh natural environment in which satellites operate, thousands of kilometers away from the nearest repairmen on the Earth. If such disruptions could happen in the absence of man-made threats to satellites, what would be the implication for national security were such disruptions to be caused by hostile acts? Given the U.S. reliance on its space systems for national security, would the United States (as some have argued) face a future “space Pearl Harbor” if it did not first acquire the means to protect its space systems from deliberate harm?

China – Perceived as Weak

**US likely to be attacked from several nations**

**Wilson 2000** (Tom, a space commission staff member, prepared for the commission to assess United States National Security Space Management Organization, “Threats to United States Space Capabilities”, 7/19/11, http://www.globalsecurity.org/space/library/report/2001/nssmo/article05.pdf)

As history has shown—whether at Pearl Harbor, in the killing of 241 U.S. Marines in their barracks in Lebanon, or in the attack on the USS Cole in Yemen—if the U.S. offers an inviting target, it may well pay the price of attack. With the growing commercial and national security use of space, U.S. assets in space and on the ground, offer just such targets. Widely dispersed counterspace threat capabilities coupled with space situational awareness platforms threaten the U.S. ability to freely operate in space. We can no longer look at traditional adversaries as the only threat as there will likely be various space threats from several nations.

China – China is a Threat

Chinese development of ASATs has outpaced intelligence estimates

Walsh 2007 (Frank H.. "Forging a Diplomatic Shield for American Satellites: The Case For Reevaluating The 2006 National Space Policy in Light of a Chinese Anti-Satellite System." Journal of Air Law and Commerce. Vol. 72 (Fall 2007): 759. [ 28 quotes ] [ page 769-770 ]), http://spacedebate.org/argument/1141#2856

Regardless of the actual reason for the pursuit of an ASAT, China's research into the system outpaced almost all estimates. In early 2003, the Director of the Defense Intelligence Agency testified that ASAT systems would not be available for ten years. In 2004, political scientist Michael E. O'Hanlon underestimated the Chinese ASAT program when he posited that "China might also have means to attack U.S. space assets, particularly lower-flying reconnaissance satellites, by 2010 or 2015." The rapid rate of Chinese research, underestimated by the American intelligence community, should serve as a warning to American policy-makers: China has set its sights on asymmetrical systems that can target vulnerabilities in the American military.

**China is an emerging major space power**

Moltz 03 Associate Professor and Academic Associate for Security Studies, (James Clay, New Challenges in Missile Proliferation, Missile Defense, and Space Security, <http://kms1.isn.ethz.ch/serviceengine/Files/ISN/14386/ipublicationdocument_singledocument/36D8EB06-A8CB-474E-AD1E-4B55C8047526/en/op12.pdf> JH)

Finally, another topic of increasing importance is the emerging—but uncertain—role of China as a major space power. Although few beyond the space community have been following these developments, China is likely soon to become only the third country (after the Soviet Union/ Russia and the United States) to launch human beings into orbit. It is also rapidly developing its broader scientific programs and the reliability of its boosters. Yet, China to date has been denied a role on the International Space Station, partly due to U.S. Congressional politics; China is viewed by some members as an untrustworthy partner or even a potential enemy. Some defense officials in the West also harbor concerns about China’s intentions in the military space field, despite its repeated opposition to the weaponization of space in a number of international fora. Thus, it remains to be seen if China will become (from a U.S. perspective) the next “Soviet Union” in space,

**It doesn’t matter if our intentions are 100% peaceful, Russia and China will respond to capability, not intention**

Kimball and Young ’01 (Daryl G. and Stephen W., “National Missile Defences and arms control after Clinton’s NMD Decision”, Page 15, Disarmament Forum: 2001, (Kimball: Executive Director of the Arms Control Association)(Young: Senior Analyst of Global Security Program at the Union of Concerned Scientists) <http://www.unidir.org/pdf/articles/pdf-art91.pdf> DOA: 7/19/11 ARW)

In practice, however, this approach is self-defeating. Military planners and political leaders of states with histories of adversarial relations respond to capabilities, not just intentions. While unilateral reciprocal nuclear weapons reductions should be pursued in the absence of prompt implementation of START II and START III, if the United States pursues a significant missile defence system as Governor Bush proposes, Russia would feel compelled to keep a large number of strategic nuclear forces on high alert and increase the number of warheads on their ballistic missiles to preserve their ability to launch an overwhelming counterattack. In addition, China could be expected to increase its deployed strategic nuclear arsenal tenfold.13 A heightened Russian posture and accelerated Chinese build-up would lead American military planners and congressional leaders to oppose unilateral strategic nuclear reductions.

China – China is a Threat

China views counterspace capabilities as a necessity – they’ll develop capabilities that enable them to destroy US space assets

Koskinas 2005 (Ioannis, "Space Warfare Foolosophy: Should the United States be the First Country to Weaponize Space?." Air & Space Power Journal, January), http://spacedebate.org/evidence/1169/

According to the latest DOD report on Chinese military capabilities, the People's Republic of China (PRC) views the need for counterspace capabilities as inevitable. The PRC, according to Theresa Hitchens, is the only other country in the world that is engaged in a political-military debate on the value of space weaponization. Part of what makes China the most likely near term competitor for the United States is the extreme uncertainty that surrounds the Chinese space program. According to the DOD's 2004 report on Chinese military capabilities, the PRC realizes that the US is so dependent on space and, thus, it remains interested in counterspace capabilities that can deny or degrade America's ability to react to a PRC-Taiwan conflict. Paradoxically, the mystique of Chinese intentions makes space derived intelligence, surveillance, and reconnaissance (ISR) one of the few ways that the US can assess the progress of PRC space weapons. China recognizes this paradox and has taken steps to bolster its counterspace capabilities. A July 2000 article by Yang Hucheng, a Chinese defense analyst, supports this assertion. Hucheng suggests "for countries that can never win a war with the United States by using the method of tanks and planes, attacking the U.S. space system may be an irresistible and most tempting choice. Part of the reason is that the Pentagon is greatly dependent on space for its military action."

\*\*\*Miscalc\*\*\*

Miscalc 1AC (1/4)

Advantage (\_) is Russia Miscalc

US and Russian nuclear arsenals are on high alert – The risk of miscalc is high

Giacomo 2003 (Carol, Writer for Reuters “Experts Fear U.S.-Russia Nuclear 'Miscalculation'” 5/22/03)

More than a decade after the Cold War ended, the world faces a possible "perfect storm" of security factors that has increased the risk of an accidental or unauthorized nuclear exchange between the United States and Russia, experts said yesterday. A study by the RAND think-tank, strongly endorsed by former U.S. senator Sam Nunn and his non-profit group The Nuclear Threat Initiative, paints a devastating picture of Russia's strategic capabilities and challenges assumptions about the degree to which better U.S.-Russian relations have improved security. In the report and at a news conference, they called for world leaders to address the problem. The chilling assessment came as the Republican-dominated U.S. Senate cleared the way for research and development of a new generation of low-yield nuclear weapons, up to about a third as large as the bomb dropped on Hiroshima in World War II. A day after senators voted to lift a 10-year-old ban on such weapons research, Democrats sought a compromise that would allow the research, but prohibit the development. Senators instead approved lifting the ban on both research and development, but would require the American president to seek congressional authorization before producing any of the new weapons. "This issue is as clear as any issue ever gets: You're either for nuclear war or you're not," said Democratic Senator Ted Kennedy. "Either you want to make it easier to start using nuclear weapons or you don't." New Scientist magazine, meanwhile, reports that the British government is recruiting scientists for its nuclear weapons program, raising fears among anti-nuclear campaigners that London may join Washington in developing new-generation nuclear weapons. Britain's Atomic Weapons Establishment has confirmed it hopes to hire 80 physicists, material scientists and systems engineers this year and to increase its work force by 300 or more by 2008, the magazine says. The scientists may be involved in research with the United States under a mutual defense agreement. Nunn said the post-Cold War era has seen lessened chances of a premeditated nuclear strike by Washington or Moscow, but "on balance my belief is that the risk has increased ... for a perfect storm in terms of a nuclear miscalculation or an accident." The RAND study cites three reasons for this: First, the United States and Russia retain large nuclear forces on "hair-trigger" alert, meaning they could be launched in minutes and destroy both societies in an hour. Second, economic and social problems have led Russia to rely increasingly on nuclear arms. The number of Russian weapons that could survive a U.S. first strike attack has declined dramatically, its submarine fleet has been "decimated," its early warning system has deteriorated to the point of "serious disrepair," and many of its intercontinental ballistic missiles are "well beyond their planned service lives," the report says. Moreover, "the breakdown of order in Russia, economic difficulties, and low morale of its military personnel and the rise of organized crime and separatist violence have increased concern" about nuclear force security, it said. Third, the vulnerability of Russian forces is enhanced by the increasing capability of U.S. forces to deliver accurate and devastating strikes, the report concluded. All this means "the incentive (for Moscow) is to launch quickly use it or lose it," said David Mosher, one author of the study. The report foresaw three scenarios: an intentional unauthorized nuclear weapon launch by a terrorist or rogue commander; a missile launched by mistake; or an intentional launch of nuclear weapons based on incorrect or incomplete information.

1. Suspicion

Blair 1998 (Bruce, president of the World Security Institute, Loose Cannon, Review of Peter Pry's War Scare (Atlanta: Turner Publishing); Graham Allison et al.'s Avoiding Nuclear Anarchy: Containing the Threat of Loose Russian Nuclear Weapons and Fissile Material (Cambridge, MA: MIT Press, 1996); Andrew and Leslie Cockburn's One Point Safe (New York: Anchor Doubleday, 1997), The National Review, Lexis, accessed 7/19/11, AA)

This litany of "war scares"--stretching from the early 1980s through the 1995 nuclear false alarm triggered by Norway's launching of a scientific rocket--indicates to Pry that the Russian military's paranoia about a sudden U.S. nuclear strike, combined with the country's internal turmoil, has created a real nuclear risk about which we (himself apart) remain totally ignorant. Russia could easily miscalculate U.S. nuclear intentions and mount a nuclear attack, he says, "for no good reason." This brief is sometimes persuasive, particularly in the case of the tense nuclear relations during the early 1980s. And although he stretches his thesis beyond its tinsel strength, the Russian defense establishment is more suspicious of the West than most observers imagine, the nuclear threshold is lower than commonly perceived, and the domestic and international context is a more pivotal factor in Russian threat assessment than is normally recognized. Worse, perhaps, the danger of Russian nuclear miscalculation is not as remote as many suppose, and the progressive deterioration of Russian early warning and control represents a more serious threat than either of our governments is willing to acknowledge. Pry stands on solid ground, too, when he advises the United States to weigh more carefully the potential for our security policies, military operations, and exercises to rattle the Russians, whose current military weakness increases their susceptibility to fear and panic.

Miscalc 1AC (2/4)

1. False warning

Blair 1998 (Bruce, president of the World Security Institute, Accidental Nuclear War — A Post–Cold War Assessment, <http://www.nejm.org/doi/full/10.1056/NEJM199804303381824#t=articleResults>, accessed 7/19/11, AA)

Possible scenarios of an accidental or otherwise unauthorized nuclear attack range from the launch of a single missile due to a technical malfunction to the launch of a massive salvo due to a false warning. A strictly mechanical or electrical event as the cause of an accidental launch, such as a stray spark during missile maintenance, ranks low on the scale of plausibility.29 Analysts also worry about whether computer defects in the year 2000 may compromise the control of strategic missiles in Russia, but the extent of this danger is not known. Several authorities consider a launch based on a false warning to be the most plausible scenario of an accidental attack.20,29 This danger is not merely theoretical. Serious false alarms occurred in the U.S. system in 1979 and 1980, when human error and computer-chip failures resulted in indications of a massive Soviet missile strike.10,30 On January 25, 1995, a warning related to a U.S. scientific rocket launched from Norway led to the activation, for the first time in the nuclear era, of the “nuclear suitcases” carried by the top Russian leaders and initiated an emergency nuclear-decision-making conference involving the leaders and their top nuclear advisors. It took about eight minutes to conclude that the launch was not part of a surprise nuclear strike by Western submarines — less than four minutes before the deadline for ordering a nuclear response under standard Russian launch-on-warning protocols.10,24,27

1. Human Error

Phillips 02 (http://www.web.net/~cnanw/20mishaps.htm “20 Mishaps That Might Have Started Accidental Nuclear War” Physician of protecting the world from nuclear weapons and wrote for the Canadian network to abolish nuclear weapons.)

The extreme boredom and isolation of missile launch crews on duty must contribute to occasional bizarre behaviour. An example is reported by Lloyd J.Dumas in Bulletin of the Atomic Scientists vol.36, #9, p.15 (1980) quoting Air Force Magazine of 17 Nov. 71. As a practical joke, a silo crew recorded a launch message and played it when their relief came on duty. The new crew heard with consternation what appeared to be a valid launch message. They would not of course have been able to effect an actual launch under normal conditions, without proper confirmation from outside the silo. The probability of actual progression to nuclear war on any one of the occasions listed may have been small, due to planned "fail-safe" features in the warning and launch systems, and to responsible action by those in the chain of command when the failsafe features had failed. However, the accumulation of small probabilities of disaster from a long sequence of risks add up to serious danger. There is no way of telling what the actual level of risk was in these mishaps but if the chance of disaster in every one of the 20 incidents had been only 1 in 100, it is mathematical fact that the chance of surviving all 20 would have been 82%

Miscalc 1AC (3/4)

Once the first missile is launched, warning systems automatically trigger a response – the entire arsenal gets unloaded.

**Hoffman 1999** (David, writer of Washington Post Foreign Service, Russia’s Myopic Missile Defense, <http://www.washingtonpost.com/wp-srv/inatl/longterm/coldwar/shatter021099a.htm> PJ)

There have been several close calls. In September 1983, the Soviet early-warning system sent a false signal to ground stations that a U.S. missile attack was underway. After a few anxious minutes deep in a Soviet defense bunker, the mistake was recognized by an officer on duty. In another case that highlights the early-warning risks, the launch of a Norwegian scientific rocket in 1995 triggered a false alarm that was reported all the way to Yeltsin. At the time of the 1983 alarm, the Soviet satellites positioned to detect U.S. ballistic missile launches had been on station for only about a year. Launched into a high elliptical orbit, the satellites did not look directly down at Earth; rather, they peered at an angle, depending on infrared waves to identify the hot exhaust of a rocket against the black background of space. To keep tabs on U.S. missile fields, an array of satellites was needed. Their space tracks followed one after another, sweeping over the known missile locations in the United States; but they were prone to drift from their orbits and had to be replaced often. Podvig said he believes it can look down at the North Atlantic – Tridents also patrol the Pacific – while Theodore A. Postol, a professor at MIT, has questioned whether it has look-down capability at any ocean. Without this capacity, Postol said, Russia would be blind to sea-launched missiles. "Russia has no space-based early warning against the most potent threat its land-based forces face, the U.S. Trident submarine-launched ballistic missiles," he said. Postol noted that Russia's system of ground-based early-warning radar has also been degraded because many installations were built on the Soviet periphery – outside Russia – and are now in independent states. An important radar station in Latvia was closed last August and has not been replaced, and there are other gaps, as well. Postol has mapped "corridors" in which missiles could be launched at Russia that would not even show up on the existing radar screens. One such avenue runs from the Pacific, where most Tridents are based, into the heart of Russia from the Far East. "There are large parts of the Russian forces that could be attacked from the Gulf of Alaska and would be destroyed without Russia even knowing an attack was underway," Postol said in an interview. "Moscow could be destroyed within four to five minutes of the radars seeing the incoming warheads." The situation is risky, Postol said, in that it could drive Russia more and more toward making a quick decision to retaliate – one that would be based on less reliable information. But Podvig said he is not as worried as Postol about Russia's early-warning problems. "If you consider Cold War scenarios, a lack of early warning is a really bad thing. You can come up with all kinds of first-strike scenarios. But I'm not that pessimistic. My view is that, even if Russia has no early-warning capability, no radars, no satellites, and still relies on intercontinental ballistic missiles and launch-on-warning, in any crisis, Russia will still have to be taken seriously," he said.

Miscalc 1AC (4/4)

This is the most likely scenario for extinction

Helfand and Pastore 2009 (Ira Helfand, M.D., and John O. Pastore, M.D., are past presidents of Physicians for Social Responsibility. U.S.-Russia nuclear war still a threat. March 31, 2009.http://www.projo.com/opinion/contributors/content/CT\_pastoreline\_03-31-09\_EODSCAO\_v15.bbdf23.html)

President Obama and Russian President Dimitri Medvedev are scheduled to Wednesday in London during the G-20 summit. They must not let the current economic crisis keep them from focusing on one of the greatest threats confronting humanity: the danger of nuclear war. Since the end of the Cold War, many have acted as though the danger of nuclear war has ended. It has not. There remain in the world more than 20,000 nuclear weapons. Alarmingly, more than 2,000 of these weapons in the U.S. and Russian arsenals remain on ready-alert status, commonly known as hair-trigger alert. They can be fired within five minutes and reach targets in the other country 30 minutes later. Just one of these weapons can destroy a citytgp. A war involving a substantial number would cause devastation on a scale unprecedented in human history. A study conducted by Physicians for Social Responsibility in 2002 showed that if only 500 of the Russian weapons on high alert exploded over our cities, 100 million Americans would die in the first 30 minutes. An attack of this magnitude also would destroy the entire economic, communications and transportation infrastructure on which we all depend. Those who survived the initial attack would inhabit a nightmare landscape with huge swaths of the country blanketed with radioactive fallout and epidemic diseases rampant. They would have no food, no fuel, no electricity, no medicine, and certainly no organized health care. In the following months it is likely the vast majority of the U.S. population would die. Recent studies by the eminent climatologists Toon and Robock have shown that such a war would have a huge and immediate impact on climate world wide. If all of the warheads in the U.S. and Russian strategic arsenals were drawn into the conflict, the firestorms they caused would loft 180 million tons of soot and debris into the upper atmosphere — blotting out the sun. Temperatures across the globe would fall an average of 18 degrees Fahrenheit to levels not seen on earth since the depth of the last ice age, 18,000 years ago. Agriculture would stop, eco-systems would collapse, and many species, including perhaps our own, would become extinct. It is common to discuss nuclear war as a low-probabillity event. But is this true? We know of five occcasions during the last 30 years when either the U.S. or Russia believed it was under attack and prepared a counter-attack. The most recent of these near misses occurred after the end of the Cold War on Jan. 25, 1995, when the Russians mistook a U.S. weather rocket launched from Norway for a possible attack. Jan. 25, 1995, was an ordinary day with no major crisis involving the U.S. and Russia. But, unknown to almost every inhabitant on the planet, a misunderstanding led to the potential for a nuclear war. The ready alert status of nuclear weapons that existed in 1995 remains in place today. The nuclear danger will not pass until the U.S. and Russia lead the other nuclear states to a Nuclear Weapons Convention that seeks to abolish these weapons forever. As a critical first step the U.S. and Russia must take their weapons off ready-alert status. Presidents Obama and Medvedev can do this on their own by executive order. Ira Helfand, M.D., and John O. Pastore, M.D., are past presidents of Physicians for Social Responsibility.

**Miscalc – Impact Ext**

US – Russia war leads to extinction

Nyquist 04 (expert on Russian and Communist military and foreign policy. http://www.christianforums.com/t1054021/)

Bayer's statement craves the following amendment: If Russia has the firepower to "incinerate" America, it stands to reason that Russia's intercontinental rockets (with their pinpoint accuracy) could be directed at the U.S. military in such a way as to cripple America's nuclear deterrent (and neutralize U.S. conventional forces). American experts, and the American public, have yet to understand that Mutual Assured Destruction (MAD) is a myth, along with the supposedly unbreakable "triad" of nuclear retaliation (consisting of bombers, land based missiles and submarine-launched missiles). There is no military reason to destroy cities when destroying weapons will put the enemy's cities at your mercy.The destruction of America's nuclear deterrent in a surprise attack is not fantasy. Russia has been training its forces for exactly such an opportunity. In fact the entire international landscape of today, down to the anti-U.S. shift of France and Germany, the diversionary nature of the "war on terror" and the Russia-China strategic partnership fits snuggly into this scenario. While our strategic attention is fixed on al Qaeda and Iraq, America's nuclear deterrent may be vulnerable to surgical strikes. "Terrorist" hits against critical U.S. communications might conceivably negate U.S. early warning systems. New methods for tracking ballistic missile submarines may already exist. Russian intercontinental missiles, launched in the wake of diversionary terror attacks, might destroy America's missile silos and bomber bases. Pundits and so-called "experts" are often guided by the mistaken notion that nuclear weapons exist solely for the purpose of obliterating population centers; but the shock wave of a 25-megaton bomb detonated in the ocean will destroy all submarines within an 18 to 20-kilometer radius. Smaller nuclear weapons can take out bomber bases and missile silos. The truth that Mr. Bayer has put forward in the pages of the Wall Street Journal, therefore, has much wider significance. It is not simply that Russia has the power of launching a suicidal strike that could destroy America. Russia possesses weapons that have a war-winning potential if used in proper combination with other forces (regular and irregular). In this context, President Vladimir Putin's resuscitation of the USSR is hardly a spontaneous shift. There is a growing body of evidence that this shift was long in the making; that it may have been conceived prior to the Soviet Union's collapse.This week an overseas friend passed along his concerns about the persecution of an independent Russian journal. "They have no doubt that Communism is back," he explained. If this is true, imagine the danger that is now developing against the United States. Communism was dead but now it is alive. Will the Bush Administration come to its senses and confront this emerging challenge?Wednesday's *Wall Street Journal* jolted readers with Janusz Bugajski's "A Look Into Putin's Soul." According to Bugajski, "Russia's relative weakness, so often cited by Putin apologists, is dangerously misleading…." But America stubbornly clings to a myth. And this myth is very comforting. Adding to the mix, American ignorance of things Russian is readily evidenced by presidential candidate John Kerry's remark, during his first debate with George Bush, about visiting KGB headquarters in "Treblinka Square."

A nuclear miscalculation can lead to nuclear war.

Broad 2000 (Broad, William J. "U.S.-Russian Talks Revive Old Debates on Nuclear Warnings." New York Times 1 May 2000: A8. Gale Opposing Viewpoints In Context. Web. 19 July 2011, AA)

The launch on warning strategy is essentially this: if a defender detected a nuclear launch, it would send up its own missiles and warheads even before its enemy's could hit the ground. That way, a country would not be left defenseless by having its missiles destroyed while they were still sitting in their submarines and silos. Launch on warning was once seen as a way to reinforce the idea that all sides would lose in a nuclear exchange -- and thus deter one -- as modern arms became increasingly accurate. The problem, most experts on strategy say, is that it also puts nuclear war on a hair trigger. And it increases the risks of an accidental nuclear exchange because early warning systems are notoriously faulty. In 1995, for instance, the Russians misread the launching of an American weather rocket from Norway as a surprise nuclear attack. If not caught by vigilant humans, such false alerts can start an accidental exchange of nuclear missiles.

Nuclear miscalculation causes EXTINCTION

Bostrom 02 (Professor of Philosophy, Yale University Nick, “Existential Risks,” http://www.transhumanist.com/volume9/risks.html)

A much greater existential risk emerged with the build-up of nuclear arsenals in the US and the USSR. An all-out nuclear war was a possibility with both a substantial probability and with consequences that might have been persistent enough to qualify as global and terminal. There was a real worry among those best acquainted with the information available at the time that a nuclear Armageddon would occur and that it might annihilate our species or permanently destroy human civilization. Russia and the US retain large nuclear arsenals that could be used in a future confrontation, either accidentally or deliberately. There is also a risk that other states may one day build up large nuclear arsenals. Note however that a smaller nuclear exchange, between India and Pakistan for instance, is not an existential risk, since it would not destroy or thwart humankind’s potential permanently. Such a war might however be a local terminal risk for the cities most likely to be targeted. Unfortunately, we shall see that nuclear Armageddon and comet or asteroid strikes are mere preludes to the existential risks that we will encounter in the 21st century.

**Miscalc – Probability**

Russia will attack at the slightest provocation due to paranoia

Nyquist 99 (expert on Russian and Communist military and foreign policy. <http://www.christianforums.com/t1054021/>)

The greatest danger facing America is a possible nuclear attack from Russia. This danger is not something imaginary. Russian nuclear missiles can reach America in about 30 minutes, reducing America's cities to rubble. Unlike Russia, America has no anti-ballistic missile defenses and no national shelter system. Furthermore, political changes in Russia have not reduced the danger of nuclear war. According to former CIA analyst Peter Vincent Pry, there has been a five-fold increase in nuclear war scares since the collapse of Communism. What accounts for the increased danger? We have to look at Russia with an eye to previous defector warnings about Kremlin strategy. Americans need to reconsider the importance of KGB defector Anatoliy Golitsyn, who predicted the collapse of the Soviet Union several years before it happened. Golitsyn's 1984 book, "New Lies for Old," alleged that the coming Soviet collapse would be orchestrated by the KGB in order to disarm the West. Gen. Jan Sejna, a high ranking Czech defector, made a similar claim in his 1982 book, "We Will Bury You." In 1967 Sejna learned of a plan to fake the collapse of the Warsaw Pact. This plan hoped to advance the arms control process, encourage Western disarmament, and alter the balance of power in Russia's favor. Golitsyn and Sejna -- two significant defectors from the Communist bloc -- both described a long range Soviet plan. Both of them said this plan involved a grand deception, unprecedented in scope. Western policy-makers did not believe Golitsyn or Sejna's statements. Secretary of State Henry Kissinger, for example, refused to consider the possibility of a Soviet plan. "One of the basic problems with the West," explained Sejna, "is its frequent failure to recognize the existence of any Soviet 'grand design' at all. Those rejecting this concept unwittingly serve Soviet efforts. ..." To understand why the danger of nuclear war is increasing, we need to remember what Golitsyn and Sejna said about the final moves envisioned by Soviet deception planners. In 1984 Golitsyn predicted a future Russian military alliance with China. This alliance would be formed towards the end of the "final phase" of the long range strategy, when Russia would turn the tables on America and emerge with renewed strength. Golitsyn's 1984 book suggested that the end of the "final phase" would roughly correspond with the year 1999. A quick review of recent events shows the accuracy of this astonishing prediction. Consider Golitsyn's overall description of the future: First, the West disarms after Communism's "collapse"; then, Russia forms a military partnership with China while both countries increase their military power. Accurate predictions need to be credited. If Golitsyn's allegations about a Soviet long-range deception are true, then Gorbachev and Yeltsin were never our friends. In that context, an increase in war scares may not be entirely accidental -- but intentional. In fact, every time Russia prepares its nuclear forces for launch, or sends its ballistic missile submarines to sea, America's reaction is studied by Russian specialists. Is there a weakness in U.S. early warning systems? Can these systems be bypassed or fooled? How quickly can America get her submarines to sea and her bombers into the air? One can almost hear Russia's top generals saying, "Let us test the Americans." It should be noted that the Norwegian rocket launch of January 1995, which momentarily triggered panic among the Russian generals, was definitely not such a "test." This case is interesting because of its psychological implications. Russia's generals feared that a harmless science rocket was part of an EMP precursor attack on their communications infrastructure -- a standard opening move in a nuclear war. Given America's generosity toward Russia, and the good relations that existed at the time, the generals' had no reason to fear a NATO attack. It might be argued, however, that their momentary panic suggests a bad conscience. In other words, no one is more paranoid of being robbed than a thief. And nobody is more frightened of a surprise nuclear attack than those who are plotting one themselves. Totalitarian mentalities are always projecting their own evil intentions onto others. For example, Stalin plotted against his colleagues, accusing them of plotting against him. In nearly all cases Stalin's victims were innocent and Stalin was guilty. The same technique was used by Chairman Mao. When the Chinese tyrant wanted to destroy someone, he would begin with false accusations. In most cases Mao's accusations against others could justly be turned against Mao. Armed with this psychological insight into the totalitarian mind, we need to take a fresh look at the statements of Russian strategists and military planners. According to "Soviet Military Strategy," a classic text used in the education of Russia's current crop of generals, America "plans to initiate a new world war by a surprise nuclear attack. ..." "It must be realized," explains the Russian text, "that (America's) preparation for such a blow has gone too far, that too great financial and material resources have been expended (to permit a reversal of policy). Moreover, it must be remembered that adventurism and recklessness have always been characteristic of imperialism." According to this same text: "The (American) imperialists are preparing an offensive against our country, a war of total destruction and mass annihilation of the population with nuclear weapons."

Miscalc – Solvency

Space Missile Defense key to intercepting accidental launches

Fox and Orman ’11 Eugene Fox is vice president and Stanley Orman is CEO of Orman Associates, Rockville, Md., a defense consulting firm. May 9, 2011. “BMD Needs Space Component”. <http://www.defensenews.com/story.php?i=6442464&c=FEA&s=COM>

Chilton is right to bring this subject to the forefront once again. We need this space-based capability for our missile defense, and just as important, to protect our space-based sensors from attack. We are heavily dependent on our space assets for communications, for observation, for location and guidance using GPS, and for any BMD activity. The loss of these capabilities would drastically reduce our ability to defend ourselves or to respond in any effective manner if hostilities were to break out. Let us hope that some active serving officers will have to courage to speak out and admit that space is merely another domain in which we have to operate effectively if we are to remain secure. Aegis ships are now being deployed to the Mediterranean to provide interception capability for missiles aimed at Europe, and agreement has been reached to deploy ground-based interceptors in Romania in 2015, for the same purpose. These limited capability missiles may provide some defense for Europe against intermediate-range missiles fired from Iran, but will not enhance American defenses against long-range missiles directed at the U.S. mainland. We seem to be insistent on avoiding the real issue. If we are to have effective missile defenses, we have to consider space-based interceptors.

Miscalc – Solvency

U.S. Space Weaponization key to leadership, security and intelligence.

Rozoff ‘09

Rick Rozoff is an analyst with Liberty News Radio. June 18, 2009. “Militarization Of Space: “Threat Of Nuclear War On Earth”. <http://www.opednews.com/articles/Militarization-Of-Space-T-by-Rick-Rozoff-090619-728.html>.

“Russian military experts see in this doctrine a disguised bid by the US for the weaponization of outer space. Anti-satellite weapons makes an integral part of the U.S. missile defence system.” The U.S. National Space Policy of 2006 states that “In this new century, those who effectively utilize space will enjoy added prosperity and security and will hold a substantial advantage over those who do not. Freedom of action in space is as important to the United States as air power and sea power. In order to increase knowledge, discovery, economic prosperity, and to enhance the national security, the United States must have robust, effective, and efficient space capabilities.” It further identifies goals of the policy to include the intention to: Strengthen the nation’s space leadership and ensure that space capabilities are available in time to further U.S. national security, homeland security, and foreign policy objectives Enable unhindered U.S. operations in and through space to defend our interests there Develop and deploy space capabilities that sustain U.S. advantage and support defense and intelligence transformation and provide, as launch agent for both the defense and intelligence sectors, reliable, affordable, and timely space access for national security purposes Support military planning and satisfy operational requirements as a major intelligence mission The same Russian general quoted above cited as an example of Washington’s space war plans the Pentagon’s downing of an American spy satellite in February of 2008, allegedly because it had become disabled. General Buzhinsky said, “Despite the statements of some U.S. officials that the satellite’s destruction had to be performed once only to minimize risks for life and the health of people, many analysts are of another opinion. They believe that the U.S. tested a new type of weapons capable of destroying spacecraft.” A year later, February of 2009, an American and Russian satellite were reported to have collided over northeastern Russia.

Miscalc – New EMP Impact

Space BMD solves Iranian EMP attacks that collapse the economy

Brian Kennedy, president of the Claremont Institute and a member of the Independent Working Group on Missile Defense, 2008. “What a single nuclear warhead could do,” http://online.wsj.com/article/SB122748923919852015.html

Third, America will remain in a condition of strategic vulnerability as long as it fails to build defenses against the most powerful political and military weapons arrayed against us: ballistic missiles with nuclear warheads. Such missiles can be used to destroy our country, blackmail or paralyze us. Any consideration of how best to provide for the common defense must begin by acknowledging these facts. Consider Iran. For the past decade, Iran -- with the assistance of Russia, China and North Korea -- has been developing missile technology. Iranian Defense Minister Ali Shamkhani announced in 2004 their ability to mass produce the Shahab-3 missile capable of carrying a lethal payload to Israel or -- if launched from a ship -- to an American city. The current controversy over Iran's nuclear production is really about whether it is capable of producing nuclear warheads. This possibility is made more urgent by Iranian President Mahmoud Ahmadinejad's statement in 2005: "Is it possible for us to witness a world without America and Zionism? But you had best know that this slogan and this goal are attainable, and surely can be achieved." Mr. Ahmadinejad takes seriously, even if the average Iranian does not, radical Islam's goal of converting, subjugating or destroying the infidel peoples -- first and foremost the citizens of the U.S. and Israel. Even after 9/11, we appear not to take that threat seriously. We should. Think about this scenario: An ordinary-looking freighter ship heading toward New York or Los Angeles launches a missile from its hull or from a canister lowered into the sea. It hits a densely populated area. A million people are incinerated. The ship is then sunk. No one claims responsibility. There is no firm evidence as to who sponsored the attack, and thus no one against whom to launch a counterstrike. But as terrible as that scenario sounds, there is one that is worse. Let us say the freighter ship launches a nuclear-armed Shahab-3 missile off the coast of the U.S. and the missile explodes 300 miles over Chicago. The nuclear detonation in space creates an electromagnetic pulse (EMP). Gamma rays from the explosion, through the Compton Effect, generate three classes of disruptive electromagnetic pulses, which permanently destroy consumer electronics, the electronics in some automobiles and, most importantly, the hundreds of large transformers that distribute power throughout the U.S. All of our lights, refrigerators, water-pumping stations, TVs and radios stop running. We have no communication and no ability to provide food and water to 300 million Americans. This is what is referred to as an EMP attack, and such an attack would effectively throw America back technologically into the early 19th century. It would require the Iranians to be able to produce a warhead as sophisticated as we expect the Russians or the Chinese to possess. But that is certainly attainable. Common sense would suggest that, absent food and water, the number of people who could die of deprivation and as a result of social breakdown might run well into the millions. Let us be clear. A successful EMP attack on the U.S. would have a dramatic effect on the country, to say the least. Even one that only affected part of the country would cripple the economy for years. Dropping nuclear weapons on or retaliating against whoever caused the attack would not help. And an EMP attack is not far-fetched. Twice in the last eight years, in the Caspian Sea, the Iranians have tested their ability to launch ballistic missiles in a way to set off an EMP. The congressionally mandated EMP Commission, with some of America's finest scientists, has released its findings and issued two separate reports, the most recent in April, describing the devastating effects of such an attack on the U.S. The only solution to this problem is a robust, multilayered missile-defense system. The most effective layer in this system is in space, using space-based interceptors that destroy an enemy warhead in its ascent phase when it is easily identifiable, slower, and has not yet deployed decoys. We know it can work from tests conducted in the early 1990s. We have the technology. What we lack is the political will to make it a reality. An EMP attack is not one from which America could recover as we did after Pearl Harbor. Such an attack might mean the end of the United States and most likely the Free World. It is of the highest priority to have a president and policy makers not merely acknowledge the problem, but also make comprehensive missile defense a reality as soon as possible.

Miscalc – Probability

**Russian miscalculation high probability during crisis**

**Sugden, Summer 2009** (Bruce M, a defense analyst based in Washington D.C., “Russian Miscalculation to Conventional Ballistic Missile Launch most likely in Period of Strained Relations or Crisis”, spacedebate.org, DOA: 7/18/11 PJ)

My conclusion is not that Russia or other nuclear-armed states with missile early warning systems would hastily and disproportionately respond to detection of a few U.S. CBM flights, but that the ambiguity of ballistic missile flights could raise the risk of an inadvertent nuclear response under the following set of conditions: (1) heightened political-military tensions between the United States and the nuclear state; (2) poor military and diplomatic communications between the states and lack of notification about the CBM flights; (3) lack of distinguishing characteristics between the CBMs and nuclear-armed missiles (e.g., basing modes and flight trajectories); and (4) lack of training for personnel in the nuclear state's early warning and attack assessment chain of command for dealing with limited-scale CBM flights.

**Mishaps are habitual and many are not recorded unless they are considered “drastic.”**

**Tiwari and Gray** **96** (Jaya Tiwari is a Ph.D. candidate at Old Dominion University and a former intern at the Center for Defense Information (CDI). Cleve Gray is a M.A. candidate in National Security Studies at Georgetown University and a former research intern at CDI. http://www.cdi.org/Issues/NukeAccidents/accidents.htm)

The history of U.S. nuclear weapon accidents is as old as their introduction into the American military arsenal. The first known, officially acknowledged accident occurred in February 1950, when an American B-36 bomber jettisoned a bomb into the Pacific Ocean. The record of these accidents, however, has been beset with mysteries and inconsistencies due to a lack of documentation available to the public. The paucity of publicly available data is largely the result of the highly classified nature of information regarding nuclear weapons and their location. To maintain this opacity, the U.S. military's policy is to neither confirm nor deny the presence of nuclear weapons in most accidents.Despite claims that the U.S. nuclear stockpile is safe and reliable, the number of accidents involving America's atomic arsenal is a matter of concern. The Department of Defense (DoD) first published a list of nuclear weapon accidents in1968 which detailed 13 serious nuclear weapon accidents between 1950-1968. An updated and revised list released in 1980 catalogued 32 accidents between1950-1980. However, this second compilation failed to include some of the accidents covered in the 1968 list. Even the updated estimate does not tell the entire story, for no additional list of nuclear weapon accidents acknowledged by the Pentagon has been released since 1980. Moreover, the list included only those instances that were judged severe enough to fit the Pentagon's conservative definition of a nuclear weapon "accident." Many more mishaps which could have been catastrophic were excluded as "nuclear weapons incidents.”Further blurring the picture are major discrepancies in the way different military branches report nuclear weapon accidents or incidents. For example, according to a General Accounting Office (GAO) report entitled Navy Nuclear Weapons Safeguards and Nuclear Weapon Accident Emergency Planning, a total of 563 nuclear weapon incidents were reported by the Navy between 1965-1983. However, the report creates some uncertainty by noting that "of the 563 nuclear weapon incidents reported, 330 involved no weapon or the weapon or component involved were non-nuclear." The report does not provide any explanation of this discrepancy although a number of plausible explanations exist. For instance, the Navy could have included 330 security breaches in its overall total. Nevertheless, even if these 330 incidents are not considered "accidents," 233 nuclear weapons incidents are publically documented during the 18 year period covered by this report. At the same time, documents released by the Navy under the Freedom of Information Act cite 381 nuclear weapon incidents between 1965 and 1977.

\*\*\*Rogue States Advantage\*\*\*

Rogue States 1AC (1/3)

Lack of missile defense makes us vulnerable to Iranian ICBM’s – they’ll get it by 2015

Brinton Turner, SpaceNews staff writer, 2010 SpaceNews, “GOP Pledges To Fully Fund Missile Defense”, 9/27/10, <http://spacenews.com/policy/100927-gop-pledges-fund-missile-defense.html>

Republican members of the U.S. House of Representatives on Sept. 23 unveiled a new “Pledge to America” policy agenda that includes freezing nonmilitary spending and restoring missile defense funding that it says is needed to protect the United States from a ballistic missile attack from Iran. “There is real concern that while the threat from Iranian intercontinental ballistic missiles could materialize as early as 2015, the government’s missile defense policy is not projected to cover the U.S. homeland until 2020,” the document states. “We will work to ensure critical funding is restored to protect the U.S. homeland and our allies from missile threats from rogue states such as Iran and North Korea.” The administration of U.S. President Barack Obama last year overhauled plans for defending European allies and deployed forces from ballistic missiles. Under the previous administration’s plan, ground-based interceptors were to be placed in Poland in 2013. Obama’s plan will be implemented in four phases, starting with deploying Aegis Ballistic Missile Defense ships to European waters as soon as 2011 to defend against short- and medium-range threats. A new Aegis interceptor capable of defeating ICBMs is not planned to be ready until 2020. With the most recent U.S. intelligence estimates stating that Iran could have an ICBM capability by 2015, House Republicans say the United States may face a five-year vulnerability to an Iranian ICBM.

Iran will attack once they have the technology, and they acknowledge the backlash to doing so.

Spencer 2000 (Jack Spencer, Research Fellow, Nuclear Energy Policy, Thomas A. Roe Institute for Economic Policy Studies, 2K

Heritage Foundation, “America's Vulnerability to a Different Nuclear Threat: An Electromagnetic Pulse”, 5/26/2000, <http://www.heritage.org/Research/Reports/2000/05/Americas-Vulnerability-to-a-Different-Nuclear-Threat> )

Scenario #5: A rogue leader wants to attack the United States but evade retaliation. Iran, which the 1998 Commission to Assess the Ballistic Missile Threat to the United States (the Rumsfeld Commission) reported "has the technical capability and resources to demonstrate an ICBM-range ballistic missile...within five years of the decision to deploy," decides to take hostile action against the United States after developing an ICBM.7 It knows that a direct nuclear attack on the United States would result in the destruction of Tehran.8 It launches two missiles with nuclear warheads that detonate 250 miles above Illinois and Wyoming. The United States does not retaliate because no one is immediately killed. Not knowing whether Iran has other nuclear warheads, the United States decides to limit its response against Iran rather than risk a direct nuclear attack on a U.S. city.

**The risk is high – North Korea, Iran, and non-state actors are emboldened by lack of defense – only the plan solves.**

Steven Lambakis, Senior Analyst and Managing Editor, *Comparative Strategy,* 2007Hoover Institution, “Missile Defense From Space”, 3/2007, <http://www.gees.org/documentos/Documen-02177.pdf> [Marcus]

The ballistic missile threat to the United States, its deployed forces, and allies and friends has been well defined.6 This is a threat we downplay at our peril. Nations such as North Korea and Iran — which also have significant programs to develop nuclear, biological, and chemical weapons — as well as nonstate groups can pose significant, even catastrophic, dangers to the U.S. homeland, our troops, and our allies. Russia and China, two militarily powerful nations in transition, have advanced ballistic missile modernization and countermeasure programs. Indeed, despite the reality that trade relations with China continue to expand, its rapid military modernization represents a potentially serious threat. Whether these nations become deadly adversaries hinges on nothing more than a political change of heart in their respective capitals. The intelligence community’s ability to provide timely and accurate estimates of ballistic missile threats is, by many measures, poor. Our leaders have been consistently surprised by foreign ballistic missile developments. Shortened development timelines and the ability to move or import operational missiles, buy components, and hire missile experts from abroad mean the United States may have little or no warning before it is threatened or attacked. There is no escaping the uncertainty we face.

Rogue States 1AC (2/3)

A successful attack on the US would empower other states to attack as well – decimates US hegemony forever

Goldstein2007 - Professor of Global Politics and International Relations @ University of Pennsylvania [Avery Goldstein, “Power transitions, institutions, and China's rise in East Asia: Theoretical expectations and evidence,” [Journal of Strategic Studies](http://www.informaworld.com/smpp/title%7Edb=all%7Econtent=t713636064), Volume [30](http://www.informaworld.com/smpp/title%7Edb=all%7Econtent=t713636064%7Etab=issueslist%7Ebranches=30#v30), Issue [4 & 5](http://www.informaworld.com/smpp/title%7Edb=all%7Econtent=g780703608) August 2007, pages 639 – 682]

Two closely related, though distinct, theoretical arguments focus explicitly on the consequences for international politics of a shift in power between a dominant state and a rising power. In War and Change in World Politics, Robert Gilpin suggested that peace prevails when a dominant state’s capabilities enable it to ‘govern’ an international order that it has shaped. Over time, however, as economicand technological diffusion proceeds during eras of peace and development, other states are empowered. Moreover, the burdens of international governance drain and distract the reigning hegemon, and challengers eventually emerge who seek to rewrite the rules of governance. As the power advantage of the erstwhile hegemon ebbs, it may become desperate enough to resort to the ultima ratio of international politics, force, to forestall the increasingly urgent demands of a rising challenger. Or as the power of the challenger rises, it may be tempted to press its case with threats to use force. It is the rise and fall of the great powers that creates the circumstances under which major wars, what Gilpin labels ‘hegemonic wars’, break out.13 Gilpin’s argument logically encourages pessimism about the implications of a rising China. It leads to the expectation that international trade, investment, and technology transfer will result in a steady diffusion of American economic power, benefiting the rapidly developing states of the world, including China. As the US simultaneously scurries to put out the many brushfires that threaten its far-flung global interests (i.e., the classic problem of overextension), it will be unable to devote sufficient resources to maintain or restore its former advantage over emerging competitors like China. While the erosion of the once clear American advantage plays itself out, the US will find it ever more difficult to preserve the order in Asia that it created during its era of preponderance**.** The expectation is an increase in the likelihood for the use of force – either by a Chinese challenger able to field a stronger military in support of its demands for greater influence over international arrangements in Asia, or by a besieged American hegemon desperate to head off further decline. Among the trends that alarm those who would look at Asia through the lens of Gilpin’s theory are China’s expanding share of world trade and wealth (much of it resulting from the gains made possible by the international economic order a dominant US established); its acquisition of technology in key sectors that have both civilian and military applications (e.g., information, communications, and electronics linked with to forestall, and the challenger becomes increasingly determined to realize the transition to a new international order whose contours it will define. the ‘revolution in military affairs’); and an expanding military burden for the US (as it copes with the challenges of its global war on terrorism and especially its struggle in Iraq) that limits the resources it can devote to preserving its interests in East Asia.14 Although similar to Gilpin’s work insofar as it emphasizes the importance of shifts in the capabilities of a dominant state and a rising challenger, the power-transition theory A. F. K. Organski and Jacek Kugler present in The War Ledger focuses more closely on the allegedly dangerous phenomenon of ‘crossover’– the point at which a dissatisfied challenger is about to overtake the established leading state.15 In such cases, when the power gap narrows, the dominant state becomes increasingly desperate. Though suggesting why a rising China may ultimately present grave dangers for international peace when its capabilities make it a peer competitor of America, Organski and Kugler’s power-transition theory is less clear about the dangers while a potential challenger still lags far behind and faces a difficult struggle to catch up. This clarification is important in thinking about the theory’s relevance to interpreting China’s rise because a broad consensus prevails among analysts that Chinese military capabilities are at a minimum two decades from putting it in a league with the US in Asia.16 Their theory, then, points with alarm to trends in China’s growing wealth and power relative to the United States, but especially looks ahead to what it sees as the period of maximum danger – that time when a dissatisfied China could be in a position to overtake the US on dimensions believed crucial for assessing power. Reports beginning in the mid-1990s that offered extrapolations suggesting China’s growth would give it the world’s largest gross domestic product (GDP aggregate, not per capita) sometime in the first few decades of the twentieth century fed these sorts of concerns about a potentially dangerous challenge to American leadership in Asia.17 The huge gap between Chinese and American military capabilities (especially in terms of technological sophistication) has so far discouraged prediction of comparably disquieting trends on this dimension, but inklings of similar concerns may be reflected in occasionally alarmist reports about purchases of advanced Russian air and naval equipment, as well as concern that Chinese espionage may have undermined the American advantage in nuclear and missile technology, and speculation about the potential military purposes of China’s manned space program.18 Moreover, because a dominant state may react to the prospect of a crossover and believe that it is wiser to embrace the logic of preventive war and act early to delay a transition while the task is more manageable, Organski and Kugler’s power-transition theory also provides grounds for concern about the period prior to the possible crossover.19 pg. 647-650

Rogue States 1AC (3/3)

No other country can replace the US – loss of primacy leads to apolarity – causes every impact possible

Edelman, Senior Associate of the International Security Program at Harvard, 2010 Understanding America’s Contested Primacy, <http://www.csbaonline.org/wp-content/uploads/2010/10/2010.10.21-Understanding-Americas-Contested-Supremacy.pdf>

All the countries we have considered have strengths and the potential to increase their power, but all of them are also certain to face serious problems. The period of unipolarity has been based on a singular fact: the United States is the first leading state in modern international history with decisive preponderance in all the underlying components of power: economic, military, technological and geopolitical. With the possible exception of Brazil, all the other powers face serious internal and external security challenges. Japan, with its economic and demographic challenges, must deal with a de facto nuclear-armed, failing state (the DPRK) nearby and must also cast an uneasy glance at a rising China. India has domestic violence, insurgencies in bordering countries (Nepal and Bangladesh) and a persistent security dilemma with respect to China. The demographic challenges will be particularly acute for Europe, Japan, and Russia in the areas of military manpower and economic growth. The results will either diminish overall military strength or, in the case of Russia, impose a greater reliance on nuclear weapons. With all of the problems and uncertainties that the emerging economies face and the enormous challenges that bedevil the developed world in Europe and Japan, only one thing seems certain: events will drive international economics and politics in directions that no one now anticipates and the certainties about rising and falling powers are likely to be knocked askew by a fickle and unpredictable fate. As global wealth and power flow to Asia, even if it does not occur as quickly and completely as some boosters maintain, America’s margin of superiority will decline to some degree. Whether the international system moves toward a multipolar world, as forecast by *Global Trends 2025*, however, will depend to a large degree on how people perceive the relative shifts in power and how they choose to act on those perceptions. America’s geographic position is fixed and has been a persistent source of strength. As Samuel Huntington has noted, US power “flows from its structural position in world politics ... geographically distant from most major areas of world conflict” as well as from “being involved in a historically uniquely diversified network of alliances.” Natural resources are another area of enduring advantage for the United States. America’s farmers and producers have never been more efficient or productive than they are today. Agriculture has been “a bastion of American competitiveness.” Energy resources are another advantage. The media have lavished a great deal of attention on the United States’ dependency on imported oil, a true strategic liability, but they have neglected coal and gas resources. In fact, the United States (combined with Canada) trails only the Middle East in the wealth of its energy resources. Industrial capacity is an area where the decline of the US manufacturing sector has been seen as a surrogate for broader US decline. The United States’ transition to a post-industrial, information-technologyoriented and heavily financialized economy was an important part of avoiding the predictions of “imperial overstretch” in the 1990s. In the wake of the Great Recession the post-industrial transition is seen as perhaps an Achilles’ heel of the US economy. These views probably underestimate a few factors that should help the United States navigate the current transition from the first unipolar era to whatever follows it. Openness to innovation can play an important role in extending the United States’ leading role in the world. Some scholars believe that innovation is the key to countries emerging as system leaders in sectors that power long waves of economic activity and growth. Failure to maintain system leadership in these sectors is a key cause of decline. Another factor that may propel the United States to a more rapid recovery is the so-called “American creed,” which includes a very heavy dose of hostility to the role of the state in the economy. A larger private sector may well continue to provide entrepreneurs and innovators the scope to prolong America’s leading sector primacy in the international economy.An additional, and extremely important, long-term factor underpinning likely continued US global economic leadership is demographics. The US fertility rates are among the highest in the developed world and are virtually at replacement. With a growing population that will be more youthful than other developed countries (or China) the United States would appear to be in a favorable position. One could also add to the long list of US advantages the political and social stability that has made it the safe haven for global investors. None of these advantages, however, including the United States’ military power, mean that the United States is destined to remain the preponderant power or that unipolarity will continue to characterize the international system indefinitely. Bad policy decisions in a number of areas could negate or squander US advantages. In addition the United States faces many of its own challenges. Despite its demographic health the United States will have to meet the unfunded pension liabilities represented by the aging of the baby boom generation. The nation’s standing has also suffered from the mismanagement of the wars in Iraq and Afghanistan. Without a concerted effort by the United States, the international system could move in the direction of nonpolarity or apolarity with no nation clearly playing a leading role in trying to organize the international system. The result would be a vacuum of leadership unable to manage the plethora of contemporary problems besetting the world like terrorism, nuclear proliferation, ethnic and sectarians wars, humanitarian disasters, crime, narcotics trafficking, pandemic disease and global climate change to name just a few.

Rogue States – Threats Exist

Multiple threats exist that can be countered by missile defense

Independent Working Group 2007 **(**The Independent Working Group is co-chaired by Dr. Robert Pfaltzgraff, President of the Institute of Foreign Policy Analysis (IFPA) at Tufts University, and by Dr. William R. Van Cleave, Professor Emeritus of the Department of Defense and Strategic Studies at Missouri State University, and a member of the original U.S. delegation which drafted the 1972 ABM Treaty. Ambassador Henry F. Cooper, who in former roles oversaw both development of missile defense for the U.S. and was chief negotiator to the Geneva Defense and Space Talks, Dr. Robert Jastrow, founding director of NASA’s Goddard Institute for Space Studies, and Dr. Lowell Wood, a Physicist at Lawrence Livermore National Laboratory and Commissioner on the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) were among the numerous missile defense, space, and security experts from the scientific, technical, and national security policy communities around the country who are members of the Independent Working Group. Members of the Working Group also include Brian T. Kennedy, president of the Claremont Institute, and Thomas Karako, Director of Programs at the Claremont Institute and editor of Missilethreat.com. Sponsors and authors of the IWG report include eight think-tanks headquartered in Washington D.C., California, Alaska, Missouri, Massachusetts, and around the country.**2007**(Collective report**/**study) “missile defense and the space relationship and the 21st century”2007 <http://www.missilethreat.com/repository/doclib/IWGreport.pdf>

Yet there is ample reason for concern. The threat envi­ronment confronting the United States in the twenty-first century differs fundamentally from that of the Cold War. An unprecedented number of international actors have now acquired – or are seeking to acquire – ballistic mis­siles and weapons of mass destruction. Rogue states, chief among them North Korea and Iran, have placed a premi­um on the acquisition of nuclear, chemical and biological weapons and the means to deliver them, and are moving rapidly toward that goal. Russia and China, traditional competitors of the United States, continue to expand the range and sophistication of their strategic arsenals. And a number of asymmetric threats – including the possibil­ity of weapons of mass destruction (WMD) acquisition by terrorist groups or the decimation of American critical in­frastructure as a result of electromagnetic pulse (EMP) – now pose a direct threat to the safety and security of the United States. Moreover, the number and sophistication of these threats are evolving at a pace that no longer allows the luxury of long lead times for the development and de­ployment of defenses. In order to address these increasingly complex and multifaceted dangers, the United States must deploy a system that is capable of comprehensive protection of the American homeland as well as its overseas forces and its allies from the threat of ballistic missile attack. Over the long term, U.S. defenses also must be able to dissuade would-be missile possessors from costly investments in missile technologies, and to deter future adversaries from confronting the United States with WMD or ballistic mis­siles. Our strategic objective should be to make it impos­sible for any adversary to influence U.S. decision-making in times of conflict through the use of ballistic missiles or WMD blackmail.

Iran is a ballistic missile threat, the US must act now

Bruno 2009 Greg, **Bruno,** Iran's Ballistic Missile Program, **09,** <http://www.gif.org.tr/eng/pdf/Irans_Ballistic_Missile_Program.pdf>

For a decade U.S. intelligence agencies have predicted a looming Iranian missile threat (Globalsecurity.org) to the United States. In 1999 and again in 2001, intelligence experts put 2015 as a possible date for development of an Iranian ICBM. Coupled with the belief that Iran covets a nuclear weapon, this assessment has long driven U.S. interests in a workable missile defense system, at home and for Europe. Yet while many analysts say Iran is making incremental progress (BBC) toward a viable long-range missile program, there remains considerable dispute over what kinds of systems Iran possesses, how capable the systems are, and whether advancement is possible without significant foreign assistance. Hildreth says "there is little transparency in Iran's ballistic missile programs," making judgments difficult. Adding to the uncertainty, Hildreth says, are Tehran's frequent attempts at deception. "Iran has a demonstrated history of lying, misleading, and misinforming about their missile- and space-launch tests," he says. "It's clear that they have done that in the past."

**US likely to be attacked from several nations**

**Wilson 2000** (Tom, a space commission staff member, prepared for the commission to assess United States National Security Space Management Organization, “Threats to United States Space Capabilities”, 7/19/11, http://www.globalsecurity.org/space/library/report/2001/nssmo/article05.pdf)

As history has shown—whether at Pearl Harbor, in the killing of 241 U.S. Marines in their barracks in Lebanon, or in the attack on the USS Cole in Yemen—if the U.S. offers an inviting target, it may well pay the price of attack. With the growing commercial and national security use of space, U.S. assets in space and on the ground, offer just such targets. Widely dispersed counterspace threat capabilities coupled with space situational awareness platforms threaten the U.S. ability to freely operate in space. We can no longer look at traditional adversaries as the only threat as there will likely be various space threats from several nations.

Rogue States – Plan Solves

Even if countries attack, Space NMD would destroy the missiles in boost phase Only SBLs can knock down missiles before they reach boost mode.

Mowthorpe 2002 Matthew **Mowthorpe**, writer for Air and Space Power Journal (Branch of Air Force Research Institute) **02**

Air and Space Power Journal, “The Revolution in Military Affairs and Directed Energy Weapons”, 3/8/02, <http://www.airpower.maxwell.af.mil/airchronicles/cc/mowthorpe02.html>)

SBLs would be located on satellites placed in low-earth orbit. The type of orbit would depend on the nature of the threat. A satellite’s orbital altitude is an important factor since it must place the laser, as frequently as possible, in a position where it can destroy the largest number of missiles in their boost phase. The satellite needs to be at an altitude sufficient to enable it to intercept the farthest boosting missile it can see without focusing the beam in such a way that closer and more vulnerable missiles are missed. The optimal altitude depends upon the height at which the booster's engines stop firing, the capacity of the laser, and the hardness of the missiles. When the Soviet Union’s ICBMs were considered the main threat, polar orbits were chosen since they provided good coverage of the northern latitudes. However, polar orbits concentrate SBLs at the poles where there are no ballistic missiles deployed. The optimum configuration would be a number of orbital planes inclined about 70o to the equator.7 It is generally accepted that SBLs would be incapable of lasing a missile re-entry vehicle with a destructive dose of energy during its midcourse and re-entry trajectory. Re-entry vehicles are hardened to survive the launch, midcourse and thermal re-entry phases of missile flight, then successfully detonate and destroy even hard targets.8 The missile must therefore be targeted during the time when it is above the clouds and atmosphere and before it deploys re-entry vehicles.

Without space control, the US cannot maintain dominance on the battlefield

Space policy project 2010 (October 20 2010, space policy project special weapons monitor arms control, Space Based Lasers, <http://www.fas.org/spp/starwars/program/sbl.htm>)

Space-based Missile Defense For the United States, space represents an indispensable first line of defense. Almost since the beginning of the space age over forty years ago, the United States has utilized this are­na for intelligence and defense support, including deploying sensors in space to provide early warning of a missile launch. Without space control, the United States cannot maintain dominance on the battlefield. With the demise of the ABM Treaty, the United States can now legally develop, test, and deploy space- as well as sea-, air-, and mobile ground-based defenses. To build a missile defense with the global capability to protect its own territory and its overseas forces, friends, and allies, as President Bush has proposed, the United States will need to include space-based defenses. They possess a glob­al capability because they can intercept a missile regard­less of launch location, provided that the constellation is large enough to keep interceptors continually within range of possible launch locations. Of all basing modes, space-based defenses would provide the widest area of coverage and greatest number of shots against enemy war­heads – and it would have the very desirable feature of al­ways being present to destroy ballistic missiles launched from anywhere in the world. The potential to intercept and destroy a missile over enemy territory soon after launch, rather than over friendly territory, makes the development of a boost phase intercept (BPI) capability very desirable. In concert with ground based theater missile defense (TMD) systems already under development, the U.S. continues to investigate BPI concepts for BMD systems. The SBL program could develop the technology to provide the U.S. with an advanced BMD system for both theater and national missile defense. BMDO believes that an SBL system has the potential to make other contributions to U.S. security and world security as a whole, such as inducing potential aggressors to abandon ballistic missile programs by rendering them useless. Failing that, BMDO believes that the creation of such a universal defense system would provide the impetus for other nations to expand their security agreements with the United States, bringing them under a U. S. sponsored missile defense umbrella.

\*\*\*Aliens… I Sincerely Apologize…\*\*\*

Aliens 1AC (1/3)

Advantage (\_) is Alien Contact

**Alien encounters are inevitable and threaten human survival**

IB Times 11 (June 28, 2011http://www.ibtimes.com/articles/170421/20110628/aliens-exist-aliens-landing-aliens-shall-be-found-by-2031-ufo-seen-in-londo-flying-saucers-space-ali.htm)

Human civilization may come into contact with the extraterrestrial civilizations within the next two decades, according to a top Russian astronomer.

Russian astronomers expect to find out and meet aliens by the year 2031, Andrei Finkelstein, director of the Russian Academy of Sciences' Applied Astronomy “"The genesis of life is as inevitable as the formation of atoms. Life exists on other planets and we will find it within 20 years," he told Interfax news agency, adding that aliens would most likely resemble humans. "They may have two arms, two legs and a head. They may have different color skin, but even we have that," he said. According to Finkelstein, 10 percent of the known planets circling suns in the galaxy resemble Earth, which increases the possibility that life exists elsewhere. “If water can be found there, then so can life,” he said. Contact with extraterrestrial civilizations has been one of the most sought after efforts taken by scientists and astronomers. http://img.ibtimes.com/www/site/us/images/1px.gifHowever, the renowned cosmologist Stephen Hawking, who has always said that alien life certainly existed, has warned over contact with them as it might be devastating for humanity. "If aliens visit us, the outcome would be much as when Columbus landed in America, which didn't turn out well for the Native Americans," he told The Sunday Times in April last year. He also advocated in an interview with BBC in May 2010 that, “rather than try to establish contact, man should try to avoid contact with alien life forms.” Finkelstein asserted that Russian Academy of Sciences' Applied Astronomy Institute has “mainly been waiting for messages from space and not the other way." Reports of UFO (Unidentified Flying Object) sightings across the world in the last 60 years have added to the speculations about alien life. The infamous Roswell UFO sighting in New [Mexico](http://www.ibtimes.com/topics/detail/439/mexico/) in July 1947, which the government allegedly covered up, triggered intense curiosity worldwide about aliens.

More recently, UFOs were reportedly 'spotted' in [London](http://www.ibtimes.com/topics/detail/913/london/) on June 24, fueling assumptions about aliens, an issue which refuses to die down.

Astronauts agree with us – Aliens exist and the government knows it

Daily Mail 7/24/2008[“ Apollo 14 astronaut claims aliens HAVE made contact - but it has been covered up for 60 years”, July 24th, 2008, http://www.dailymail.co.uk/sciencetech/article-1037471/Apollo-14-astronaut-claims-aliens-HAVE-contact--covered-60-years.html]

Aliens have contacted humans several times but governments have hidden the truth for 60 years, the sixth man to walk on the moon has claimed. Apollo 14 astronaut Dr Edgar Mitchell, said he was aware of many UFO visits to Earth during his career with NASA but each one was covered up. Dr Mitchell, 77, said during a radio interview that sources at the space agency who had had contact with aliens described the beings as 'little people who look strange to us.' He said supposedly real-life ET's were similar to the traditional image of a small frame, large eyes and head. Chillingly, he claimed our technology is 'not nearly as sophisticated' as theirs and "had they been hostile", he warned 'we would be been gone by now'. Dr Mitchell, along with with Apollo 14 commander Alan Shepard, holds the record for the longest ever moon walk, at nine hours and 17 minutes following their 1971 mission. 'I happen to have been privileged enough to be in on the fact that we've been visited on this planet and the UFO phenomena is real,' Dr Mitchell said. 'It's been well covered up by all our governments for the last 60 years or so, but slowly it's leaked out and some of us have been privileged to have been briefed on some of it.

Aliens 1AC (2/3)

Aliens will pillage earth for resources and kill the humans that remain

JonathanLeake, journalist, 4/25/2010 [ “Don’t talk to aliens, warns Stephen Hawking”, April 25th, 2010, http://www.timesonline.co.uk/tol/news/science/space/article7107207.ece]

THE aliens are out there and Earth had better watch out, at least according to Stephen Hawking. He has suggested that extraterrestrials are almost certain to exist — but that instead of seeking them out, humanity should be doing all it that can to avoid any contact. The suggestions come in a new documentary series in which Hawking, one of the world’s leading scientists, will set out his latest thinking on some of the universe’s greatest mysteries. Alien life, he will suggest, is almost certain to exist in many other parts of the universe: not just in planets, but perhaps in the centre of stars or even floating in interplanetary space. Hawking’s logic on aliens is, for him, unusually simple. The universe, he points out, has 100 billion galaxies, each containing hundreds of millions of stars. In such a big place, Earth is unlikely to be the only planet where life has evolved. Top of Form

Top of Form

Bottom of Form

“To my mathematical brain, the numbers alone make thinking about aliens perfectly rational,” he said. “The real challenge is to work out what aliens might actually be like.” The answer, he suggests, is that most of it will be the equivalent of microbes or simple animals — the sort of life that has dominated Earth for most of its history. One scene in his documentary for the Discovery Channel shows herds of two-legged herbivores browsing on an alien cliff-face where they are picked off by flying, yellow lizard-like predators. Another shows glowing fluorescent aquatic animals forming vast shoals in the oceans thought to underlie the thick ice coating Europa, one of the moons of Jupiter. Such scenes are speculative, but Hawking uses them to lead on to a serious point: that a few life forms could be intelligent and pose a threat. Hawking believes that contact with such a species could be devastating for humanity. He suggests that aliens might simply raid Earth for its resources and then move on: “We only have to look at ourselves to see how intelligent life might develop into something we wouldn’t want to meet. I imagine they might exist in massive ships, having used up all the resources from their home planet. Such advanced aliens would perhaps become nomads, looking to conquer and colonise whatever planets they can reach.” He concludes that trying to make contact with alien races is “a little too risky”. He said: “If aliens ever visit us, I think the outcome would be much as when Christopher Columbus first landed in America, which didn’t turn out very well for the Native Americans.” The completion of the documentary marks a triumph for Hawking, now 68, who is paralysed by motor neurone disease and has very limited powers of communication. The project took him and his producers three years, during which he insisted on rewriting large chunks of the script and checking the filming.

Xenophobia and misunderstandings ensure conflict – escalates every impact they read

David Brin Ph.D. in applied physics @ UC San Diego, NASA consultant, 9-20**02**  "A Contrarian Perspective on Altruism: The Dangers of First Contact,” http://www.setileague.org/iaaseti/brin.pdf September 2002

For instance, what will the news of contact do to people? Some suggest it will inevitably lead to mass hysteria and alienation -- even riots and suicide -as paranoia and xenophobia (fear of outsiders) takes hold. This hoary sci fi cliché – which drives a story plot by assuming the worst -- has even appeared even in some high quality speculations, like 2001 a Space Odyssey. SETI scholars take the opposite view, conveyed aptly in another film, Contact, in which humanity is portrayed accepting the news from outer space with commendable reflection, awe and humility, eager to put our petty Earthly struggles into perspective. (Should contact be made by the natives of my homeland -- California -- the first question asked of any visitors would probably be -- “Say, groovy gentlebeings, have you got any new cuisine?") In truth, we’ll most likely see every possible reaction. Panic and calm, mysticism and reason, hope and despair. Each combination will mirror the heart of different human being, or a different segment of the population. This may or may not be dangerous, but it certainly does promise interesting times, soon after the announcement is made. What if an ambiguous message from the stars seems to verify or validate the cherished beliefmeme of some group on Earth? For instance, imagine that, after transcription of the messages, a star-and-crescent symbol appears repeatedly on our alien correspondents' interstellar letterhead, and this is taken by some to mean that the aliens are Muslims? Or that some E.T. name happens to translate similar to a central myth figure of an obscure Christian sect? Or that hive-like beings express uncomprehending contempt for democracy? If two-way communication takes decades, even centuries, it may be hard to ask our new friends to clarify their meaning in time to make a difference in the resulting confusion. This is serious. Once upon a time, wars were fought over differing interpretations of a single line or word of scripture. Or even a smudge, as in the row over homo ousias. We like to think such pettiness lies behind us. But then, we also thought that epidemic was an obsolete word, for a brief innocent while. We ought to be prepared for the inevitable likelihood that individuals and groups on Earth will seek any advantage they can from the first messages from the stars, whatever form those messages take. How much worse might these problems be, if the extraterrestrials are responding to an ill considered message of our own? Whether they do so inadvertently, or out of deliberate malice, it will be within the power of alien communicators to use words and symbols in unhelpful ways.

Aliens 1AC (3/3)

**Only the plan can save us. Laser Weapons have been used and have the capability to take down alien spacecraft**

Exopolitics 06 (Michael E. Salla, PhD has held academic appointments in the School of International Service, American University, Washington DC (1996-2001), and the Department of Political Science, Australian National University, Canberra, Australia (1994-96). He taught as an adjunct faculty member at George Washington University, Washington DC., in 2002. http://www.bibliotecapleyades.net/exopolitica/esp\_exopolitics\_ZZN.htm)

Yes. At least two CSETI witnesses plan to testify that “Star Wars” type weapons have brought down alien extraterrestrial craft. A laser/particle beam weapon may have been used, possibly based on Kwajelein Island. Exact information will be revealed when the CSETI witnesses testify.

The US Army Space and Missile Defense Command is working on a new active defense weapon system concept to enhance protection for combat forces and theater-level assets for the Force XXI Army. The mobile Tactical High Energy Laser, or THEL, weapon system would provide an innovative solution for the acquisition and close-in engagement problems associated with dumb munitions, a primary concern because counter-battery fire may not be an option in densely populated areas. For several years, US Army SMDC has pursued development of a mobile, tactical high energy laser concept that could provide new air and missile defense capability. Numerous Department of Defense high-energy laser development programs over the last 20 years have proven and demonstrated the beam generation and beam pointing technologies that support the THEL concept. Force XXI advancements in the area of real-time situational awareness now make it possible to capitalize on the prime attributes of a THEL in operational scenarios. A THEL will be able to fire with speed-of-light flyout for close-in engagements where time lines are very short. Cost will run only a few thousand dollars per kill or less, with a deep magazine to counter saturation attacks. Not only can a THEL weapon system destroy a target, but it can also degrade, disrupt, or damage. This enhances operational flexibility and effectiveness against a wide variety of air threats. A THEL system would enhance the effectiveness of the short- to medium-range air defense architecture. The effectiveness of high-energy lasers against short-range rockets was tested and demonstrated in the Nautilus program, an outgrowth of Project Strong Safety, in collaboration with Israel. The program was conducted primarily at US Army SMDC’s High Energy Laser Systems Test Facility at White Sands Missile Range, NM. Nautilus used only a fraction of the power of the HELSTF Mid-Infrared Advanced Chemical Laser to emulate the THEL weapon concept performance.  The MIRACL is a megawatt-class, deuterium fluoride, chemical laser operating at HELSTF since the early 1980s. After a series of static and dynamic tests, the program successfully destroyed a short-range rocket in flight on Feb. 9, 1996. This success triggered a joint THEL development effort with Israel.

Aliens – Contact Bad

**Aliens will find us and destroy us to get resources for their race Discovery News 10** (Stephen Hawkings He obtained a First Class Honours Degree in Natural Science from University College Oxford and then went on to Cambridge to conduct research in Cosmology. http://news.discovery.com/space/do-aliens-exist-will-they-kill-us.html)

Expecting any extraterrestrial visitors to be cute and cuddly like E.T.? You shouldn't be. If Stephen Hawking is right, it sounds as if the aliens who eventually drop by Earth will be far less friendly, [Times Online](http://www.timesonline.co.uk/tol/news/science/space/article7107207.ece) reported.In Hawking's new Discovery Channel series Into the Universe, the theoretical physicist suggests that rather than seeking out alien life forms, we should be hiding from them—at least until we've evolved to be able to defend ourselves against what's likely to be a more highly advanced species."We only have to look at ourselves to see how intelligent life might develop into something we wouldn't want to meet," said Hawking. "I imagine they might exist in massive ships, having used up all the resources from their home planet. Such advanced aliens would perhaps become nomads, looking to conquer and colonize whatever planets they can reach."And what's likely to be the outcome of any such visit if we're not ready for it?

Aliens – Exist

Extra-terrestrials exist and they have violated laws and wreaked havoc for decades

Exopolitics 06 (Michael E. Salla, PhD has held academic appointments in the School of International Service, American University, Washington DC (1996-2001), and the Department of Political Science, Australian National University, Canberra, Australia (1994-96). He taught as an adjunct faculty member at George Washington University, Washington DC., in 2002. <http://www.bibliotecapleyades.net/exopolitica/esp_exopolitics_ZZN.htm>)

In his book, The Day After Roswell, co-authored with William Birnes, retired Lt. Col. Philip Corso declared that extraterrestrials were abducting civilians, violating U.S. airspace, and destroying aircraft sent to intercept them. Corso viewed the extraterrestrials as a direct threat to U.S national security and declared: “For over fifty years, now, the war against UFOs has continued as we tried to defend ourselves against their intrusions.” **7** Elsewhere in the *Day After Roswell*, Corso describes the national security threat posed by **UFOs** and the need for a military weaponization program to target and shoot down UFOs conducting such violations. He specifically championed President Reagan’s *Strategic Defense Initiative* (**SDI**). Corso believed that SDI was the appropriate response to extraterrestrial intrusions, and that the US and USSR both knew what SDI’s true purpose was: We [US & USSR] both knew who the real targets of SDI were… It was the UFOs, alien spacecraft thinking themselves invulnerable and invisible as they soared around the edges of our atmosphere, swooping down at will to destroy our communications with EMP bursts, buzz our spacecraft, colonize our lunar surface, mutilate cattle in their own horrendous biological experiments, and even abduct human beings for their medical tests and hybridization of the species. And what was worse we had to let them do it because we had no weapons to defend ourselves. A number of UFO researchers have claimed that these bellicose statements towards extraterrestrial visitors were introduced by Corso’s co-author William Birnes, and that Corso was not as anti-extraterrestrial as The Day After Roswell suggests. That is not accurate as a reading of Col Corso’s original notes make clear. His original notes were published in Italy and contain many similar statements revealing the depth of Corso’s animosity towards visiting extraterrestrials.**9**  For example, in terms of violating U.S. air space, Corso wrote: “They have violated our air space with impunity and even landed on our territory. Whether intentional or not, they have performed hostile acts. Our citizens have been abducted and killed.” **Corso** went on to fully describe the nature of the interaction between extraterrestrial visitors and the general population: “the aliens have shown a callous indifference concerning their victims. Their behavior has been insidious and it appears they might be using our earth and manipulating earth life. Skeptics will excuse them that possibly they are benevolent and want to help, however, there is no evidence they have healed anyone or alleviated human ailments. On the other hand, they have caused pain, suffering and even death.” **Corso** here reveals the depth of his animosity towards extraterrestrials and the information he had received on their intrusive activities. His statements reveal that he had a skeptical view of the ‘benevolence’ of visiting extraterrestrials. Corso endorsed comments such as General Douglas Macarthur’s claim in 1955 that the “nations of the world will have to unite, for the next war will be an interplanetary war.” In terms of cooperation between the US and Russia (former USSR) to deal with the extraterrestrials, Corso wrote: “The U.S. and USSR are aligning their space programs against a common enemy Consequently, it can be concluded that there is no ambiguity in Corso’s belief that extraterrestrials are a genuine threat to US. national security and that weaponization of space was an urgent policy priority to deal with the “extraterrestrial enemy”. If alive today, Corso would no doubt be a strong supporter of the current U.S Air Force plans to weaponize space, and build a global defense shield that could target extraterrestrial visitors. In short, Corso has consistently demonstrated strong support for military solutions to the presence of visiting extraterrestrials that in his view were performing abductions and other ‘intrusive activities’ that posed a direct threat to U.S. national security.

\*\*\*2AC Answers\*\*\*

**Space-based defense only way to defend the US and its allies**

Gertz 2008 (Bill, national security editor and a national security and investigative reporter for The Washington Times. “Space-based Defense,” 10/28/08, [**http://www.washingtontimes.com/news/2008/oct/16/inside-the-ring/?page=all#pagebreak**](http://www.washingtontimes.com/news/2008/oct/16/inside-the-ring/?page=all#pagebreak)**)**

Congress voted recently to approve $5 million for a study of space-based missile defenses, the first time the development of space weapons will be considered since similar work was canceled in the 1990s. Appropriation of the money for the study was tucked away in a little-noticed provision of the Continuing Resolution passed recently by Congress and followed two years in which Congress rejected $10 million sought for the study. Sen. Jon Kyl, Arizona Republican and a key supporter of missile defenses, said approval of the study highlights the need to provide comprehensive protection from the growing threat of missile attack and to limit the vulnerability of vital satellites to attack. “We have the potential to expand our space-based capabilities from mere space situational awareness to space protection,” Mr. Kyl said in a Senate floor speech. “In the past 15 years, the ballistic missile threat has substantially increased and is now undeniable,” he said on Sept. 29. A total of 27 nations now have missile defenses, and last year, over 120 foreign nations fired ballistic missiles, he said. North Korea and Iran both are developing missiles and selling the technology for them, he added. Mr. Kyl also said the Pentagon’s annual report expressed concerns about accidental or unauthorized launches of long-range missiles from China and about the growing vulnerability of vital satellite systems to attack by anti-satellite weapons, as shown by China’s 2007 anti-satellite weapons test. Mr. Kyl said he hopes Defense Secretary Robert M. Gates, who will choose what government or private-sector agency will conduct the study, will choose the Institute for Defense Analyses, a federally funded research center, to carry out the study. A Senate report on the study stated that independent groups that could produce it include Energy Department national laboratories, or scientific and technical organizations. A defense official said space-based missile defenses were last considered during the first Bush administration as part of its Global Protection Against Limited Strike, or GPALS, a missile-defense plan focused on then-Soviet missiles using a combination of ground-based interceptors, sea-based missiles and space-based interceptors. The Clinton administration canceled all work on space-based missile defense and focused instead on tactical defenses against short-range missiles. The current Bush administration’s missile-defense program is limited to the deployed ground-based interceptors in Alaska and California and ship-based interceptor missile defense. The defense official, who spoke on the condition of anonymity, said space-based defenses are needed for global, rapid defense against missiles. “It’s really the only way to defend the U.S. and its allies from anywhere on the planet,” the official said.

Plan Popular

**Congress loves spending on SBMD**

Gertz 2008 (Bill, national security editor and a national security and investigative reporter for The Washington Times. “Space-based Defense,” 10/28/08, <http://www.washingtontimes.com/news/2008/oct/16/inside-the-ring/?page=all#pagebreak>)

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The Republicans strongly support missile defense and always have

Korb ’08 [Lawrence Korb, Senior Fellow at center for American Progress, Senior Advisor to the Center of Defense Information, 4-25-08, “Republicans, Missile Defense, and the Reagan Legacy” http://www.thebulletin.org/web-edition/op-eds/republicans-missile-defense-and-the-reagan-legacy]

In addition, a foolproof national missile defense would enable Republicans to go it alone in the world and not have to rely on other nations or international treaties to provide security. This philosophy can be summed up as "unilateral if we can, multilateral if we must." Thus, if national missile defense can protect the United States against North Korean, Iranian, or Chinese missiles, why negotiate or make concessions? Or if the Anti-Ballistic Missile (ABM) Treaty with Russia prevents Washington from forging ahead with national missile defense, why not just scrap the treaty regardless of how it affects U.S.-Russian relations? Or why ratify the Comprehensive Test Ban Treaty or the Fissile Material Cutoff Treaty? Instead, move ahead with the development of the bunker-buster or the reliable replacement warhead. Consequently, when the Republicans are in power, they push missile defense relentlessly. After the Republicans won both the Senate and House of Representatives in 1995, they passed a law, the National Missile Defense Act, which said that it was U.S. policy to deploy national missile defense as soon as possible. Never mind that the Soviet Union had collapsed, that the Clinton administration had just concluded an agreement with North Korea to freeze its development of plutonium at Yongbyon, or that there was no evidence then that Iran was violating the Nuclear Non-Proliferation Treaty.

Democrats also want to develop stronger Missile Defense systems

Democratic National Platform 2000 [Democratic National Platform, quoted/compiled on the site OnTheIssues.com, 8-15-2000, “Develop limited Military Defense Systems” http://www.ontheissues.org/celeb/Democratic\_Party\_Defense.htm]

Our first priority is to continue to cut stockpiles of weapons of mass destruction, halting testing, and ensuring that weapons and weapons-grade material do not fall into the wrong hands. In light of the possibility that U.S. forces will have to contend with hostile tactical range ballistic missiles, we have been working rapidly to develop anti-tactical ballistic missile systems. We reject Republican plans to endanger our security with massive unilateral cuts in our arsenal and to construct an unproven, expensive, and ill-conceived missile defense system that would plunge us into a new arms race. Democrats support the development of the technology for a limited national missile defense system.

A2 – Miscalc Doesn’t Cause War

Miscalc makes nuclear war inevitable

**Mattern 2004** Ending the fool's game; saving civilization by Douglas March-April CBS interactive bussniess network, matter is Douglas Mattern is president of the Association of World Citizens, a San Francisco-based international peace organization with branches in over thirty countries and nongovernmental organization status with the United Nations, including consultative status with the UN Economic and Social Council http://findarticles.com/p/articles/mi\_m1374/is\_2\_64/ai\_114049662/?tag=mantle\_skin;content

It can only be guessed how many other close calls there have been over the years but here are a few documented examples: 1979: A CNN Cold War program reported that a technician at the North American Air Defense Command mistakenly placed a training tape into the main systems at NORAD's Cheyenne Mountain Complex in Colorado. The tape caused NORAD's early-warning system computer to respond that the United States was undergoing a massive Soviet missile attack. NORAD officials were alerted but within minutes the error was discovered, ending the threat of launching U.S. missiles in retaliation. This incident was one of rive missile warning system failures that occurred over an eight-month period. 1980: In the August 14, 1983, issue of Parade, Jack Anderson reports that on November 19, 1980, two Air Force missile officers were conducting a drill of a simulated missile launch of their Titan missile at McConnell Air Force Base near Wichita, Kansas. When Captain Henry Winsett and First Lieutenant David Mosley turned the keys for the simulated launch, something went wrong. They received a message of "Launch Sequence Go" which means the real missile launch sequence is underway. Fortunately, Winsett had the good sense to shut the missile down before it could be launched. Mosley said it couldn't be determined whether the missile's guidance system would have steered the missile to a target in Russia, which would assuredly have resulted in Soviet retaliation. But, he said, it would have gone somewhere "north." This close call still gives him tremors. 1984: As reported on the CNN Cold War program, in August 1984 a low-ranking officer at Soviet Pacific fleet headquarters in Vladivostok broadcast a war alert to Soviet forces at sea. For thirty minutes, until it was determined that the alert was false, Soviet ship commanders sent back urgent inquiries about the alert as they prepared for combat. In the meantime, U.S. and Japanese forces also went to a higher alert status. 1995: The Center for Defense Information (CDI) and several other reliable sources report that in 1995 the monitors of the Russian Strategic Rocker Force at the Olengrosk early-warning radar site registered the launch of a U.S.-Norwegian research missile probe of the upper atmosphere. To the Russians, the missile's trajectory looked like a U.S. Trident missile, which carries multiple nuclear warheads. This set off alarms at the Russian nuclear weapons command, which notified President Boris Yeltsin, who reportedly activated his "nuclear briefcase." For a few minutes perhaps the fate of the United States--and Western civilization--hung on Yeltsin's judgment. All of these incidents constituted alarmingly close calls. Blair believes that the closest the Americans and Soviets ever came to accidental nuclear war, however, was the 1983 incident involving Soviet Lieutenant Colonel Stanislav Petrov. His story has been reported by the BBC, on NBC Dateline and NOVA, and in the London Daily Mail and other sources and is perhaps the most dramatic of all the reported close calls, other than the Cuban Missile Crisis. This story could rightly be called "A Forgotten Hero of Our Time." On September 26, 1983, Petrov was in charge of two hundred men, mostly officers, operating the Russian early-warning bunker just south of Moscow. Petrov's job that fateful night was to lead a staff monitoring incoming signals from satellites. He reported directly to the Russian early-warning system headquarters which reported directly to the Soviet leader on the possibility of launching a retaliatory attack. It's important to note that this was a period of very high tension between the United States and the Soviet Union. U.S. President Ronald Reagan was continually referring to the Soviets as "the evil empire." The Soviet military had shot down a Korean passenger jet just three weeks prior to this incident and the United States and North Atlantic Treaty Organization were organizing a military exercise that centered on using tactical nuclear weapons in Europe. Some Soviet leaders were worried the West was planning a nuclear attack. In an interview with the Daily Mail, Petrov recalled that night, when computer screens were showing an attack launched by the United States. He said, "I felt as if I'd been punched in my nervous system. There was a huge map of the States with a U.S. base lit up, showing that the missiles had been launched." For several minutes Petrov held a phone in one hand and an intercom in the other as alarms blared, red lights blinked, and computers reported that U.S. missiles were on their way. In the midst of this horrific chaos and terror--the prospect of the end of civilization itself--Petrov made a historic decision not to alert higher authorities, somehow believing that, contrary to what all the sophisticated equipment was reporting, the alarm was an error. "I didn't want to make a mistake," Petrov said. "I made a decision and that was it." As the Daily Mail states, "Had Petrov cracked and triggered a response, Soviet missiles would have rained down on U.S. cities. In turn, that would have brought a devastating response from the Pentagon." As agonizing minutes passed, Petrov's decision proved correct. A computer error had falsely signaled the U.S. attack. In the Daily Mail interview, Petrov said, "After it was over, I drank half a liter of vodka as if it were only a glass and slept for 28 hours." He commented, "In principle, a nuclear war could have broken out. The whole world could have been destroyed."

A2 – Arms Race

Other countries would not try to counter the American nuclear weapons, as long as America is the first to deploy

Dolman ’05 [Everett C. Dolman, Associate Professor of Comparative Military Studies, “US Military Transformation and Weapons in Space” 9-14-05, http://www.e-parl.net/pages/space\_hearing\_images/ConfPaper%20Dolman%20US%20Military%20Transform%20&%20Space.pdf]

Indeed, it is concern for the unanticipated arrival of technology X that initially motivates my own preference for a policy advocating immediate deployment of space weapons. So long as America is the state most likely to acquire a breakthrough technology in this area, my concern is limited to the problem of letting technology take us where it will. But what if an enemy of democratic liberalism should suddenly acquire the means to place quickly and cheaply multiple weapons into orbit? The advantages gained from controlling the high ground of space would accrue to it as surely as to any liberal state, and the concomitant loss of military power from the denial of space to our already-dependent military force could cause the immediate demise of the extant international system. The longer the US dithers on its responsibilities, the more likely a potential opponent could seize low-earth orbit before America could respond. And America would respond … finally. But would another state? If America were to weaponize space today, it is unlikely that any other state or group of states would find it rational to counter in kind. The entry cost to provide the infrastructure necessary is too high; hundreds of billions of dollars, at minimum. The years of investment it would take to achieve a minimal counter-force capability—essentially from scratch—would provide more than ample time for the US to entrench itself in space, and readily counter preliminary efforts to displace it. The tremendous effort in time and resources would be worse than wasted. Most states, if not all, would opt not to counter US deployments in kind. They might oppose US interests with asymmetric balancing, depending on how aggressively America uses its new power, but the likelihood of a hemorrhaging arms race in space should the US deploy weapons there—at least for the next few years—is extremely remote

Developing offensive counter-space capabilities, such as BMD, dissuade China from attacking US satellites.

Ashley Tellis 2007, Senior associate at the Carnegie Endowment for International Peace, 2007. 'China's Military Space Strategy', Survival, 49:3, 41 – 72, <http://www.carnegieendowment.org/files/tellis_china_space1.pdf>

This has led some observers, such as US Senator Jon Kyl, to conclude that the solution to redressing emerging American space vulnerabilities in the context of competition with China lies in developing, among other things, US offensive counterspace capabilities. 90 These will almost certainly be required, if for no other reason than to deter Beijing’s use of anti-space weaponry and to hold at risk its own emerging assets in space, which are likely to become even more important for both economic and military purposes as China evolves into a great power. 91 Offensive American counterspace instruments serve the limited but critical purpose of raising the costs of China’s evolving space-denial strategy, increasing the probability that Beijing will desist from asymmetric attacks on US space assets.

A2 – Russia Relations

Missile Defense Good for U.S.-Russia relations.

Spring ’11 Baker Spring is the F.M. Kirby Research Fellow in National Security Policy at The Heritage Foundation. He specializes in examining the threat of ballistic missiles from Third World countries and U.S. national security issues. The Heritage Foundation. “Russian Control of U.S. Missile Defenses? Just Say No. April 11, 2011. http://blog.heritage.org/2011/04/11/russian-control-of-u-s-missile-defenses-just-say-no/

While the U.S. is right to be seeking Russian cooperation in the area of missile defense—more defensive strategic postures would benefit both the U.S. and Russia in addressing the proliferation of nuclear weapons and the missiles used to deliver them—the U.S. should reject this Russian demand. The Russian demand defies rational explanation. The missile defense system will serve only one purpose: to intercept and destroy ballistic missiles already launched at a target. In this context, the Russians cannot believe that U.S. and allied operation of a missile defense system will pose a threat to them unless they think they need to threaten both with a nuclear-armed missile attack. If this is the basis of Russian thinking, then this negotiation is about anything but cooperation. Genuine cooperation in the realm of missile defense is not about the possession of capabilities by the U.S., U.S. allies, or Russia; it is about all three parties standing together in the intention to oppose aggression through the use of ballistic missiles by rogue states. The Russians can be motivated only by either of two desires in demanding direct operational control. The first is to deny the U.S. and its allies the ability to operate a missile defense system for their own protection. The second is for the Russians to operate the system only for their own benefit, effectively expecting the U.S. and its allies to build a missile defense system and turn it over to Russia. Either way, the demand will leave the U.S. and its allies vulnerable to missile attack. Interestingly, there is no evidence that the Russians have made an offer to the U.S. and its allies in these negotiations to allow them operational control over the Russian missile defense system deployed around Moscow. Fortunately, there is another option for genuine cooperation in the field of missile defense between the U.S. and its allies on the one side and the Russians on the other: to pursue coordinated deployments of missile defense systems to address shared threats. This approach permits each to control the missile defenses in their possession to meet their security needs while also providing all the opportunity for cooperation even where there may be differences of opinion of what constitutes a genuine threat. The coordinated deployment option would also deny Russia the ability to assert that missile defenses are inherently destabilizing no matter which country possesses a missile defense capability. Russia made just such an assertion by insisting on the inclusion of anti-missile defense language in the preamble to the New START arms control treaty with the U.S., which has just entered into force. Russia, by acknowledging that it has a missile defense capability of its own in the contribution to coordinated deployments for countering shared threats, will no longer be able to assert that missile defenses are destabilizing under all circumstances. In the course of negotiations on missile defense cooperation, the U.S. and its allies should not buckle to the Russian demand for operational control. If they do, the agreement will only serve to perpetuate U.S. and allied vulnerability to missile attack. In this case, what was supposed to be a negotiation about cooperating in the field of missile defense will become a negotiation over cooperation in restricting missile defense. It will be an agreement that will not serve U.S. or allied interests.

A2 – Spending

Military Spending Key to economic growth

Feldstein ’08 [Martin Feldstein, professor at Harvard and member of WSJ board of contributors, 12-24-2008, “Defense Spending Would Be Great Stimulus” http://online.wsj.com/article/SB123008280526532053.html]

The Department of Defense is preparing budget cuts in response to the decline in national income. The DOD budgeteers and their counterparts in the White House Office of Management and Budget apparently reason that a smaller GDP requires belt-tightening by everyone. That logic is exactly backwards. As President-elect Barack Obama and his economic advisers recognize, countering a deep economic recession requires an increase in government spending to offset the sharp decline in consumer outlays and business investment that is now under way. Without that rise in government spending, the economic downturn would be deeper and longer. Although tax cuts for individuals and businesses can help, government spending will have to do the heavy lifting. That's why the Obama team will propose a package of about $300 billion a year in additional federal government outlays and grants to states and local governments. A temporary rise in DOD spending on supplies, equipment and manpower should be a significant part of that increase in overall government outlays. The same applies to the Department of Homeland Security, to the FBI, and to other parts of the national intelligence community. The increase in government spending needs to be a short-term surge with greater outlays in 2009 and 2010 but then tailing off sharply in 2011 when the economy should be almost back to its prerecession level of activity. Buying military supplies and equipment, including a variety of off-the-shelf dual use items, can easily fit this surge pattern. For the military, the increased spending will require an expanded supplemental budget for 2009 and an increased budget for 2010. A 10% increase in defense outlays for procurement and for research would contribute about $20 billion a year to the overall stimulus budget. A 5% rise in spending on operations and maintenance would add an additional $10 billion. That spending could create about 300,000 additional jobs. And raising the military's annual recruitment goal by 15% would provide jobs for an additional 30,000 young men and women in the first year.

Space Weapons Inevitable

Space Weapons inevitable; they know how it would cripple the US

Hyten ’01 (John E. Director, Space Programs, Office of the Assistant Secretary of the Air Force for Acquisition, Washington, D.C. “A Sea of Peace or a Theater of War: Dealing with the Inevitable Conflict in Space” January 4, 2001 <http://www.airpower.maxwell.af.mil/airchronicles/cc/Hyten.html> DOA: 7/18/11 AW)

In fact, in spite of indications to the contrary, conflict in space is inevitable—and on a limited basis, has already occurred. Nations have already interfered with the space systems of other nations—through jamming and interference—solely for commercial advantage.4 All the nations of the world have learned from the Persian Gulf War how critically dependent the United States is on the use of space assets to successfully operate in a theater of war. No nation would dare to challenge the United States in conventional military operations without attempting to somewhat level the information dominant battlefield that the U.S. currently enjoys; and this dominance, in great part, comes from space.

Numerous countries already on the brink of weaponizing

Collard-Wexler and Graham, ’06 (Simon and Thomas, et al, Space Security 2006, Waterloo, Ontario, Space Security Index; July 2006 (Collard-Wexler: International Security Research and Outreach Program, Department of Foreign Affairs and International Trade, Canada)(Graham: Cypress Fund for Peace and Security) <http://www.spacesecurity.org/SSI2006.pdf> DOA: 7/18/11 AW)

The number of states emphasizing the security uses of space in national policies continued to increase in 2005. In January, the Japanese government introduced a plan to deploy a new generation of spy satellites. Japan also continued talks with the US throughout 2005 on furthering missile defense cooperation. The Israeli Air Force unveiled plans in June to launch additional surveillance satellites to boost intelligence capabilities and to manufacture micro-satellites that could provide information on combat zones (see Space Support for Military Operations). In addition, Yuval Steinitz, chairman of Israel's Defense and Foreign Affairs Committee, stated that defense and industry officials should consider future developments of "anti-satellite missiles" and "satellite-attacking lasers." India also continued to pay greater attention to the military uses of space. The Indian Air Force urged the government to set up a Strategic Aerospace Command to purportedly facilitate the development of capabilities to degrade space weapons in preparation for "future star wars." While some reports contend that the government has rejected the proposals, Indian Air Force Chief S. P. Tyagi insists that the recommendations are still under consideration, particularly in light of the Parliamentary Standing Committee's declarations that India needs the ability to counter any threat from space. Media reports throughout 2005 revealed significant speculation about China's space capabilities and military-related space intentions, although Chinese officials maintain that the country's space program is solely for peaceful purposes.

**Russia has already tried – the only reason we aren’t dead is their rocket failed.**

Day and Kennedy ’10 (Dwayne A., Robert G. the Third, Day: American Space Historian Kennedy: Senior Systems Engineer at Tetra Tech “Soviet Star Wars: The launch that saved the world from orbiting laser battle stations.” January 01, 2010 Air and Space Magazine <http://www.airspacemag.com/space-exploration/Soviet-Star-Wars.html?c=y&page=5> DOA: 7/18/11 AW)

In the West, the debut of the Energia super-rocket was reported as a partial success; though the satellite had failed, the launcher itself operated perfectly. The U.S. government almost certainly had intelligence sensors pointed at the rocket as it flew, but what the CIA or other agencies concluded about the payload remains classified. The failure of Polyus-Skif, combined with its immense expense, gave the program's opponents the ammunition they needed to kill it. Further Skif flights were canceled. Hardware being prepared was either scrapped or shoved to the sides of giant warehouses. And the laser never got close enough to launching for anyone to judge whether it would have worked. In his history of the project, Lantratov quotes Yuri Kornilov, the Skif-DM lead designer: "Of course, no one received any prizes or awards for their feverish, two-year-long, under-the-deadline work. The hundreds of teams that had created Polyus were not given an award or a word of thanks." In fact, after the Skif-DM fiasco, some were reprimanded or demoted. We still don't know the entire story. "Even today, there's a lot of sensitivity about the whole program," says Siddiqi. "Russians don't like to talk too much about it. And our understanding of Soviet responses to SDI still remains murky. It's clear that there was a lot of internal debate within the Soviet military-industrial elite about the effectiveness of space weapons. And the fact that the Soviets came so close to actually launching a weapon platform suggests that the hardliners were in the driver's seat. It's scary to think what might have happened if Polyus had actually made it to orbit."

Space Weapons Inevitable

**Human curiosity makes weaponization inevitable**

Smith, ’02 (M.V. “Ten Propositions Regarding Spacepower” Maxwell AFB, USAF Air University October 2002 <http://www.spacedebate.org/evidence/1665> DOA: 7/18/11 AW)

Regardless of which side of the argument is correct, the historical relationship between man and his weapons provides insight into the probable future of space-based weapons. Robert L. O'Connell suggests that human nature -- not technology -- is at the root of weapons development. Covetous motives required early man to develop new ways to kill an opponent. Today's modern weapons are more lethal than the sticks and stones of ancient days, but their purpose is still to gain an advantage over an adversary. O'Connell suggests that humans will constantly develop new weapons as long as their imagination discovers and exploits timeless and eternal scientific principles such as quantum mechanics and relativistic physics, which may give them an advantage in war. Therefore, the very idea of weaponizing space becomes a driving force to do so, like the idea of splitting and fusing the atom made doing so inevitable. "Because so much of this is a function of the physical universe and the laws that govern it, the process is, in a very real sense, beyond our control."

\*\*\*Negative Frontlines\*\*\*

1NC Solvency Frontline (1/3)

Space Based Missile Defense isn’t feasible or practical. Costs are too high for no security benefits

Taylor, 2006 (Jessica, Journalist UPI correspondent “Experts Debate Space-Based Missile Defense Assets” July 26, 2006) <http://www.spacewar.com/reports/Experts_Debate_Space_Based_Missile_Defense_Assets_999.html> DOA: 7/18/2011

A new report claims U.S. anti-ballistic missile defenses must be deployed in space to be effective, but critics disagree. Several analysts say the study is based on false pretenses and the deployment of defense mechanisms into space is not in national security interests. The Institute for Foreign Policy Analysis, a Washington think tank, has issued a study saying the implementation of plans for space missile defense is critical for U.S. national security and an effective system against at least some intercontinental ballistic missiles from so-called rogue states should be in place no later than 2010. "The absence of a space strategy is a gap in national security," said Robert Pfaltzgraff, president of the IFPA, during a roundtable on the new report hosted by the American Foreign Policy Council, a small conservative Washington think tank, last Friday on Capitol Hill. "Only space can give us a global missile defense." The threat is even more immediate, many fear, following several missile tests on July 4 by North Korea. While their long range Taepodong-2 ICBM was unsuccessful, several short range No Dong missiles appeared to work effectively in the tests. One of North Korea's main exports is weapons, and Pfaltzgraff said the United States should be increasingly concerned that these short range missiles could end up in the hands of terrorists aiming to launch them from domestic shores. The IFPA analysts claimed that U.S. ballistic missile defense must be revaluated in light of these developments. However, other analysts said the Bush administration has failed so far in adequately developing its BMD programs. "Space Missile Defense won't do anything for security and will blow the defense budget," said Craig Eisendrath, board chairman for the Project of Nuclear Awareness and a former State Department analyst who dealt with space and nuclear policy. Similar criticisms were prevalent following President Ronald Reagan's proposal of a Strategic Defense Initiative, also known as "Star Wars," that originally conceptualized deploying nuclear missile defenses in space. The suggestion was revived again under the current Bush administration with the idea of "Brilliant Pebbles." "The idea was that a small satellite with good brain that would see enemy missiles and dash off after it, hit it and knock it down," said Philip Coyle, senior advisor at the Center for Defense Information. However, this concept would have required multiple satellites, perhaps as many as 1,000, in orbit to be effective. "You can't have one interceptor parked over North Korea," said Coyle. "You need another to take its place." Coyle also questioned the monetary feasibility of the program. "It would be, by all measures, very expensive. And it's still problematic as to whether would work," Coyle said. "They've been projecting [costs] for at least 20 years and it doesn't seem to happen." Pfaltzgraff said that U.S. withdrawal from the Anti-Ballistic Missile Treaty in 2001 opened up additional options in the use of space-based weapons for missile defense. However, the Bush administration had not adequately explored these options and current U.S. missile defense policies remained virtually unchanged since the Clinton administration, he said. "Bush will eventually be judged by what he does in the next two years" of his waning presidency, he said. Eisendraft said U.S.withdrawal from the ABM treaty had been a negative move for the United States and that many of America's missile defense challenges today stemmed from that pullout. Current ABM defense systems deployed in California and Alaska were inadequate, he said. Should a missile be launched, the 11 ground-based midcourse interceptors currently deployed would probably be unable to distinguish between an actual threat and a decoy. The United States has also refused to join in a treaty banning the use of space for missile defense. China, Japan, and the European Union are all willing signatories, Eisendraft said, who helped draft the original treaty. "This is crazy when the rest of the world is completely willing to sign on and kick the rest of this out," he said. "The United States is acting in a completely irresponsible manner." But the biggest factor in the push for space weaponry is corporate interests rather than economic and security sensibility, said Eisendraft. "We're dealing with a situation not driven by security aspects but money," said Eisendraft. "Across the board, we're not dealing with anything that's looking promising" in the use of space." Source: United Press International

1NC Solvency Frontline (2/3)

**Space-based Missile Defense unrealistic and cost billions of dollars**

**Hitchen ’03** (Theresa, *vice president and director of the Space Security Project at the Center for Defense Information. “Proliferation Brief, Volume 6, Number 13”. July 21, 2003.* <http://www.carnegieendowment.org/2003/07/24/space-based-missile-defense-not-so-heavenly/b9d>)

The Pentagon's Missile Defense Agency (MDA) recently admitted that it was pushing back plans to put up a space-based missile defense test bed to at least 2008. But that does not mean the agency has given up on developing orbiting interceptors for shooting down enemy missiles in their boost-phase, shortly after their launch. MDA officials, and hawkish proponents of using space for missile defense, continue to assert that it is technically feasible to design such a system using only 300 to 600 interceptors and costing $50 billion. A recent study by an illustrious panel of physicists begs to differ. Even though they themselves admit to using "extremely optimistic" technical parameters, the American Physical Society (APS) in a July 16 study found that a bare-minimum system would require at least 1,600 missiles. Such a limited system would be able to defend only the continental United States (not including Alaska) and be able to shoot down only one solid-fuel ICBM coming in from North Korea (the sort the Pentagon predicts Pyongyang and other countries are likely to have within 10 to 15 years). And the U.S. interceptors would have to be substantially larger and faster than ever built before, not to mention larger and faster than currently estimated by MDA. All totaled, the interceptors would weigh 2,000 metric tons**.** While the study, "Report of the American Physical Society Study Group on Boost-Phase Intercept Systems for National Missile Defense: Scientific and Technical Issues," did not provide any cost analysis, doing the math is fairly simple**. Average launch costs have hovered for decades at about $22,000 per kilogram. A metric ton equals 1,000 kilograms. So, this best-case scenario for space-based missile defenses would cost $44 billion just to get the interceptors into orbit.** Some experts argue that, given the volume of space launches that would be required to boost the system, launch costs could conceivably over time come down to half that per kilogram sum: $11,000. If this is true, then such a system could be put into orbit for only $22 billion. But here's the rub**: The physicists themselves admit that the system described above is based on assumptions that are optimistic enough to border on unrealistic. Under more realistic technical parameters, a system to defend the continental United States** against a North Korean launch would i**nvolve 3,600 orbiting interceptors, at a cost of either $99 billion, or using the lower launch cost figure, $49.5 billion**. However, the study itself notes that even these "more realistic" assumptions are quite optimistic, not only in pushing the edge of what is technically feasible but also in that **the space-based system described is one in which every element works perfectly 100 percent of the time** --something unheard of in the annuals of U.S. weapons development. There is more bad news. **To cover Alaska, more than double the number of interceptors would be required** to defend against a North Korean ICBM, thus more than doubling the cost (more than $198 billion or more than $99 billion). **To defend against a single shot from Iran** (another of the countries labeled by U.S. President George W. Bush as part of the axis of evil, and a country with a ballistic missile program), the study found, is more difficult and would require more interceptors. The study found under **its more realistic scenario, that 5,700 interceptors would be required, weighing 7,000 metric tons, equaling a launch cost of $154 billion (or $77 billion**). Some might say that such price-tags are not out of line for a future strategic system, given what the United States has spent on its nuclear arsenal. That may be so. But remember, **these figures involve only the direct cost of launching the space-based interceptors**. Such interceptors, which according to the study must be much faster and much larger than any to date, would have to be developed and built. More cost. In addition, a complex computerized system to control the interceptors would have to be developed. Yet more cost. Finally, a sophisticated new system of detecting, tracking and targeting ICBM launches and nearly instantaneously providing that data to the orbiting interceptors, would be required. Substantially more cost. Even more troubling is the fact that the study's more realistic scenarios include assumptions that are forgiving in the extreme. For example, these scenarios include only 30 seconds of time for a decision to fire - the best-case analysis assumed an automatic shot once a potential target was detected. This is highly problematic, in that it is impossible to tell during the early boost-phase whether what just went up was an ICBM or a space-launch vehicle carrying a satellite (or, in the case of China, possibly astronauts). To put it mildly, it seems unlikely that any U.S. commander in chief would be comfortable with automating such a momentous decision. Furthermore, as noted above, these scenarios all are based on essentially a one-shot (in some cases, two-shots), one-kill architecture. This means there is no margin for error; no redundancy in the system. If North Korea decided to launch two ICBMs (once they get them) at Alaska from nearby launch sites, the U.S. networks postulated by the study would most likely be useless. To be able to target multiple interceptors at each incoming ICBM, however, not only involves even more astronomical costs, but also raises the technical problem of ensuring that the interceptors don't become confused and mistake another of their fellow interceptors for the target. The APS study, in its generosity, called space-based missile defense "impractical**."** A more realistic look at the data shows that it is wildly so.

1NC Solvency Frontline (3/3)

**And, its ridiculously ineffective**

**Wright 11** (Dr. David Wright, Dr. Laura Grego David Wright is a senior scientist and co-director of the Global Security Program at the Union of Concerned Scientists (UCS). Ph.D. in physics from Cornell University, “Space Based Missile Defense: Fact Sheet” May 2011)

A space-based boost-phase missile defense system would target ballistic missiles during launch, while the boosters were burning. Proponents argue that by engaging a missile during boost phase, space based interceptors (SBIs) could avoid the crippling problems that plague interceptors designed to engage warheads during midcourse phase, when the warhead is above the atmosphere. In particular, decoys and other countermeasures can keep a midcourse interceptor from identifying the warhead amidst other objects and therefore keep the warhead from being intercepted. And a boosting missile is a more attractive target than a warhead because it is large, easy to detect (given its large plume), and vulnerable to attack (as it is not hardened.) However, such a system would require many hundreds of orbiting interceptors to defend against one or two missiles, and it would have serious inherent vulnerabilities that would render it ineffective. A space-based boost-phase defense is intended to intercept attacking missiles during the first few minutes of their flight, while the missiles’ engines are still burning. TO reach attacking missiles during this very short time, SBIs must be stationed in low-altitude orbits. However, in these orbits SBIs move rapidly with respect to the ground and cannot stay over any one location on Earth. To keep at least one interceptor within reach of a given missile launch site at all times therefore requires many SBIs in orbit. A 2003 American Physical Society study showed that many hundreds or thousands of SBIs would be required to provide limited coverage against ballistic missiles launched from areas of concern. This estimate is consistent with the size of the space layer in the Global Protection Against Limited Strikes (GPALS) missile defense system, which was proposed (but not built) by the George H.W. Bush administration in the early 1990s. GPALS called for 1,000 to 5,000 SBIs. Doubling the number of missiles that such a defense could engage would require doubling the size of the entire constellation of SBIs. Moreover, given the technology expected for the next decade each SBI would weight up to a ton or more. As a result, deploying such a system would be enormously expensive and actually would exceed U.S. launch capabilities. Additionally, such a system would raise significant issues for crowding and traffic management in space. Yet even if such a large system were built and the technology worked perfectly, it would not provide a reliable defense, for two reasons, First, even if the constellation of hundreds to thousands of interceptors described above were in place, only one or two SBIs would be in position to reach any given launching missile in time to destroy it. Consequently, the defense could be overwhelmed by simultaneously launching multiple missiles from one location. Second the could not protect itself from attacks intended to remove interceptors. Because SBIs would be in low-altitude orbits they could easily be detected and tracked from the ground; ad adversary would know their current and future locations. As a result, any SBI would be vulnerable to attack by inexpensive short- or medium-range missiles. These missiles would burn out at too low an altitude to be intercepted by the SBI, but the could loft homing ASAT weapons at it. By destroying relatively few SBIs in this way, an attacker could create a gap in the defense through which it subsequently could launch its long-range missiles. In short, a defense based on deploying hundreds or thousands of SBIs at enormous cost could be defeated by a handful of enemy missiles. Deploying even a small number of SBIs might negatively affect strategic relation because the SBIs could have a significant ability to destroy satellites, which travel in predictable orbits and achieve speeds similar to those of long-range missiles. Homing on a satellite rather than a boosting missile would require a different (possibly additional) sensor on the SBI, but an observer on the ground would not be able to tell which sensor the SBI was carrying. U.S. budget descriptions have suggested that the boost phase missile defense system might also be designed to intercept warheads during the midcourse phase of flight. The sensor needed for such midcourse intercepts would allow an interceptor to home on a satellite. Additionally, the large amount of thrust of interceptors, which they would need to perform boost phase missile defense from space, means that they could reach and attack satellites in GEO as well as those in lower orbits. In past years, the Missile Defense Agency has requested funding for the Space Testbed Program, to develop a space-based interceptor; to develop the command, control, battle management and communications structures for space-based missile defense; and to launch interceptors into orbit and test them against ballistic missiles. Although this program has been described as only research and development, Congress should not support such a program. As discussed above, space-based interceptors would be useful for offensive attacks on satellites. Placing even a few prototype interceptors in orbit would be seen as providing an anti-satellite (ASAT) capability. A decision to fund this program could send a message to other countries that the United States is developing a space-based ASAT capability. This apparent pursuit of space control technologies may encourage similar development by other countries, which would reduce U.S. security. Funding a Space Testbed is not an acceptable compromise between banning and deploying a space-based missile defense. Moreover, by putting dedicated space-based weapons in orbits for the first time, a program likes the Testbed—under the guise of research and development—would effectively preempt broader Congressional decision making about space weapons. Congress has not had a thorough debate of the wisdom of deploying space-based weapons, nor has it considered the desirability, feasibility, or costs of attempting to build a space-based anti-missile system or space-based ASAT weapons.

1NC Asteroids Frontline (1/2)

They are just wrong – the laser that is fired at a ballistic missile is much different that the kinetic lasers their evidence talks about

Technology solves asteroid risk

Radice 2009 (Gianmarco Radice, Ph.D. Space Advanced Research Team University of Glasgow, UK, Avoiding Another Mass Extinction Due to N.E.O. Impact, Novermber 16th, 2009) <http://journalofcosmology.com/Extinction120.html> DOA: 6/20/11

Over the last decade the possibility of an asteroid, large enough to cause world-wide destruction, impacting the Earth has stimulated an intense debate among the scientific community on possible deflection methods. A large range of mitigation strategies have been proposed and compared in literature (Barbee and Nuth, 2009; Cambier et al., 2009; Crowther, 2009; Sanchez et al, 2009). The broad overview presented in this paper does not intend to rule out other possible methods not analysed here, although some could be considered as a combination of the methodologies introduced above. For the first time in the history of mankind, we have the technological capabilities and scientific know-how to protect ourselves from a catastrophe of truly cosmic proportions. We cannot rely on statistics alone to protect us from catastrophe; we cannot afford to wait for the first modern occurrence of a devastating NEO impact before taking steps to adequately address this threat. It is now time for mankind to develop practical and viable strategies to protect Earth from asteroid impact; if not we will go the way of the dinosaurs…

Just not your technology – SBL’s have to be fired every second of every day for a month in order to alter an asteroid’s course.

Campbell et al. 2002 (Dr. Jonathan W. Campbell, Advanced Space Flight Projects, NASA/MSFC, 53rd International Astronautical Congress of the International Astronautical Federation (IAF), Houston, TX; UNITED STATES; 10-19 Oct. 2002. 2002 <http://md1.csa.com/partners/viewrecord.php?requester=gs&collection=TRD&recid=A0246215AH&q=asteroid+laser+defence&uid=790899843&setcookie=yes> accessed 7/18/2011)

Impacting at hypervelocity, an asteroid struck the Earth approximately 65 million years ago in the Yucatan Peninsula area. This disaster was responsible for extinguishing almost 70 percent of the life on Earth, including the dinosaurs, and this was just one of several such disasters. Some of the others caused even greater extinctions. Preventing collisions with the Earth by hypervelocity asteroids, meteoroids, and comets is the most important immediate space challenge facing human civilization. This is the Impact Imperative. While there are many global problems facing our planet, including overpopulation, pollution, disease, and deforestation, none of these offer the potential of rapid total extinction. Rapid is the operative word here in that many of the global problems we face may indeed, if not sufficiently addressed, pose a similar long-term threat. However, with the impact threat, a single sometimes-unpredictable event could cause a chain reaction of disasters that would end everything mankind has worked to achieve over the centuries. Our chances of being hit are greater than our chances of winning some lotteries. We now believe that while there are about 2000 Earth-orbit crossing rocks greater than 1 km in diameter, there may be as many as 200,000 or more objects in the 100-m size range. Can anything be done about this fundamental existence question facing us? The answer is yes. By using an intelligent combination of Earth and space-based sensors coupled with an infrastructure of high-energy laser stations and other secondary mitigation options, we can deflect inbound asteroids, meteoroids, and comets and prevent them from striking the Earth. This can be accomplished by irradiating the surface of an inbound rock with sufficiently intense pulses so that ablation occurs. This ablation acts as a small rocket incrementally changing the shape of the rock's orbit around the sun. One-km size rocks can be moved sufficiently in about a month, while smaller rocks may be moved in a shorter time span. We recommend that the world's space objectives be immediately reprioritized to start us moving quickly towards a multiple-option defense capability. While lasers should be the primary approach, all mitigation options depend on robust early warning, detection, and tracking resources to find objects sufficiently prior to Earth orbit passage in time to allow mitigation. Infrastructure options should include ground, LEO, GEO, lunar, and libration point laser and sensor stations for providing early warning, tracking, and deflection. Other options should include space interceptors that will carry both laser and nuclear ablators for close-range work. (Author)

1NC Asteroids Frontline (2/2)

Asteroids won’t cause extinction, too minor

Gorman ’03 [Discover Magazine Staff Writer (Rachael Moeller, “Discover Data: Extinction Trends: No Need to Fear the Asteroids?” February 1, <http://discovermagazine.com/2003/feb/breaknumbers>, accessed on July 14, 2008]

Based on evidence that an asteroid impact helped to reduce the dinosaurs to dust 65 million years ago, scientists have reasoned that other large impacts might produce similar extinctions**—**and that humans could be next on the hit list.But John Alroy of the University of California at Santa Barbara finds that life may be surprisingly resilient. He examined the size and ages of major craters in North America and compared them with the mammalian fossil record over the past 65 million years. Contrary to the predictions of one prominent extinction model, known as Raup's Kill Curve, Alroy could detect no correlation between impact size and the rate of extinction(above). He argues that life is far more tenacious than some scientists make it out to be. Furthermore,mass extinctions are very unusual, he says, and are rarely caused by a single catastrophic event. They are much more likely to result from slower, less dramatic processes such as species migration, climate change, competition, and disease.

Dangerous asteroids are not coming anytime soon

The Washington Post ‘97

[The Washington Post (February 18, 1997), The Augustine Chronicle, “Killer Asteroids not coming soon, experts say” <http://chronicle.augusta.com/stories/1997/02/18/tec_204218.shtml>]

The Earth is no stranger to encounters with space rocks. But happily for humanity, the big chunks of space rock are far outnumbered by smaller ones that swarm around Earth's path. And those large enough to make it through the atmosphere tend to land in the vast oceans or in uninhabited lands. In fact, every hour a ton of micrometeorite dust hits the Earth. Every few hours a baseball-sized lump survives intact all the way to Earth's surface. Some objects hit the upper atmosphere and bounce back out into space. Some tumble into view with unnerving suddenness - like the object at least 1,000 feet in diameter that appeared suddenly last May and took five days to cross the sky not much farther away than the moon's orbit. Based on what scientists know now, the odds that an object at least a mile in diameter will smash into Earth in the next century are slightly less than 1 in 1,000. The resulting damage would depend on the object's size, velocity, the location of impact and other variables. It could happen centuries from now, thousands of centuries from now or next month. There is no way to predict absolutely, even once scientists have completed their survey of detectable nearby objects, because interlopers from deep space could sweep in unexpectedly at any time. Even so, scientists estimate that the probability that any individual will be killed by a doomsday rock is about the same as the chance of getting killed on a commercial air flight - just under one in a million per year, according to David Morrison, director of space at NASA's Ames Research Center. The individual risk is that high only because the fatalities from just one such impact could number in the hundreds of millions or more.

1NC China Frontline (1/3)

1. China weaponizes space in response to US BMD

Zhang in 2005 (Hui, a research associate in the Project on Managing the Atom at Harvard University’s John F. Kennedy School of Government, Action/Reaction: U.S. Space Weaponization and China, 2005, <http://www.armscontrol.org/act/2005_12/Dec-cvr>, DOA: 7/18/2011)

Chinese officials have expressed a growing concern that U.S. space and missile defense plans will stimulate a costly and destabilizing arms race. In particular, the prevailing view in Beijing is that the United States seeks to neutralize China’s strategic nuclear deterrent, freeing itself to intervene in China’s affairs and undermining Beijing’s efforts to prod Taiwan to reunify. If U.S. plans are left unchecked, therefore, Beijing may feel compelled to respond by introducing its own space weapons. Beijing, however, would prefer to avoid this outcome. Chinese officials argue that weaponizing space is in no state’s interest, while continued peaceful exploitation redounds to the benefit of all states. Rather than battling over space, China wants countries to craft an international ban on space weaponization. China ’s concerns are prompted by evidence that U.S. moves toward space weaponization are gaining momentum. In January 2001, a congressionally mandated space commission headed by Donald Rumsfeld, who is now secretary of defense, recommended that “the U.S. government should vigorously pursue the capabilities called for in the National Space Policy to ensure that the president will have the option to deploy weapons in space to deter threats to, and, if necessary, defend against attacks on U.S. interests.”[1] Moreover, the U.S. withdrawal from the Anti-Ballistic Missile Treaty in 2002 has given the United States a free hand to move forward with missile defenses, and space-based missile defenses are envisioned as part of the U.S. mix. In the clearest official sign yet of support for space weaponization, last year the U.S. Air Force publicized its vision of how “counterspace operations” could help achieve and maintain “space superiority,” the “freedom to attack as well as the freedom from attack” in space.[2] Already the United States is pursuing a number of military systems[3] that could be used to attack targets in space from Earth or targets on Earth from space. To China, current U.S. deployment of a Ground-Based Midcourse Missile Defense system represents an intentional first step toward space weaponization.[4] China experts argue that the interceptors of the system based in Alaska and California could be used to attack satellites.[5]

1. **China gets the first strike and destroys our military and civilian satellites – turns the case**

Winn 08. (Patrick, "Hypothetical Attack on U.S. Outlined by China - Navy News | News from Afghanistan & Iraq - Navy Times." *Navy News, Benefits, Careers, Entertainment, Photos, Promotions - Navy Times HOME*. Jan. 21 2008. Web. 18 July 2011. <http://www.navytimes.com/news/2008/01/airforce_china_strategy_080121zap>)

When it comes to conflict with the U.S., Chinese military analysts favor age-old schoolyard wisdom: Throw the first punch and hit hard.“Future conflicts are likely to be short, intense affairs that might consist of a single campaign,” Cliff said. “They’re thinking about ways to get the drop on us. Most of our force is not forward-deployed.”China’s experts concede its army would lose a head-on fight, with one senior colonel comparing such a scenario to “throwing an egg against a rock.” Instead, the Chinese would attempt what Rand calls an “anti-access” strategy: slowing the deployment of U.S. forces to the Pacific theater, damaging operations within the region and forcing the U.S. to fight from a distance.“Taking the enemy by surprise,” one Chinese military expert wrote, “would catch it unprepared and cause confusion within and huge psychological pressure on the enemy and help [China] win relatively large victories at relatively small costs.” Another military volume suggests feigning a large-scale military training exercise to conceal the attack’s buildupThe Dragon’s Lair Striking U.S. air bases — specifically command-and-control facilities, aircraft hangars and surface-to-air missile launchers — would be China’s first priority if a conflict arose, according to Rand’s report U.S. facilities in South Korea and Japan, even far-south Okinawa, sit within what Rand calls the “Dragon’s Lair”: a swath of land and sea along China’s coast. This is an area reachable by cruise missiles, jet-borne precision bombs and local covert operatives. Air Force bases within this area include Osan and Kunsan in South Korea, as well as Misawa, Yokota and Kadena in Japan. And in a conflict over Taiwan, any nation allowing “an intervening superpower” such as the U.S. to operate inside its territory can expect a Chinese attack, according to China’s defense experts. China is designing ground-launched cruise missiles capable of nailing targets more than 900 miles away — well within striking range of South Korea and much of Japan, according to the report. Cruise missiles able to reach Okinawa — home to Kadena Air Base — are in development The Chinese would first launch “concentrated and unexpected” attacks on tarmacs using runway-penetrating missiles and, soon after, would target U.S. aircraft. Saboteurs would play a role in reconnaissance, harassing operations and even “assassinating key personnel,” according to another military expert. Chinese fighter jets would scramble to intercept aerial refueling tankers and cargo planes sent to shuttle in fuel, munitions, supplies or troops. High-explosive cluster bombs would target pilot quarters and other personnel buildings. Because the American public is “abnormally sensitive” about military casualties, according to an article in China’s Liberation Army Daily, killing U.S. airmen or other personnel would spark a “domestic anti-war cry” on the home front and possibly force early withdrawal of U.S. forces. (“The U.S. experience in Somalia is usually cited in support of this assertion,” according to the Rand report.) Once this hard-and-fast assault on U.S. bases commenced, the Chinese army would “swiftly divert” its forces and “guard vigilantly against enemy retaliation,” according to a Chinese expert. Dumb and blind The PLA also would likely use less conventional attacks on the American military’s vital communications network. The goal, as one Chinese expert put it: leaving U.S. combat capabilities “blind,” “deaf” and “paralyzed.” Losing early-warning systems designed to detect incoming missiles would be, for the Air Force, the most devastating setback — one that could force the service to exit the region altogether, according to Rand. China could also launch a nuclear “e-bomb,” or electromagnetic explosive, that would fry U.S. communication equipment while ionizing the atmosphere for minutes

1NC China Frontline (2/3)

to hours, according to the report. This would likely jam radio signals in a 900-mile diameter beneath the nuclear fireball. The PLA could also employ long-range anti-satellite missiles — similar to one successfully tested last January — to destroy one or more American satellites. However, the PLA has a host of less dramatic options: short-range jammers hidden in suitcases or bombs and virus attacks on Air Force computer networks.

1. China won’t develop in the squo – only plan causes that

Boggan 01 ( Steve, “The Independent (London)”” August 8, 2001, Wednesday SPACE - THE FINAL FRONTIER IN A NEW AND TERRIFYING ARMS RACE; 'THE MOST CHILLING ILLUSTRATION IS OF A SPACE-BASED LASER FIRING A BEAM OF ENERGY AT THE EARTH' BYLINE: Steve Boggan As the US presses ahead with its missile tests, the arms race is gaining momentum) Nexis AW

But if the US's international reputation was soured by Kyoto, it will be shattered by President Bush's determination to plough ahead with his missile defence programme, or Son of Star Wars as it has come to be known. Under the plans - which are expected to cost more than $ 100m (pounds 70m) to make a reality - the US would be able to shoot down incoming ballistic missiles using interceptor missiles and lasers. Missiles would be based on land and sea while lasers would be fired from airborne aircraft and satellites in space. In order to make the system work, forward radar stations in the US, Greenland and the UK would need to be either upgraded or fitted out with still experimental X-band radar facilities that could detect and track missiles, and guide anti-missile missiles to destroy them before they crashed down on America. Fylingdales, in Yorkshire, and Thule, in Greenland, are the only bases outside the US where permission for forward radar must be sought. Some argue that the technology will never work; others argue it can and will. What mattered to President Bush was that the first missile test of his administration would be a success so Congress would vote the programme the money it needs. Three weeks ago, a missile fired from the Vandenberg Air Force Base in California was, indeed, intercepted by another fired from the Marshall Islands in Micronesia. The celebrations were long and loud. Last week, in spite of a US Department of Defense admission that the target missile contained a beacon to attract the interceptor, a House Armed Services sub-committee voted in favour of giving $ 8.16bn to the Star Wars programme for research and development. In anticipation of that, Russia announced that it had developed missiles with high-speed "scram-jets" which would be almost impossible to shoot down. A new arms race was beginning. The US argues that its missile shield will only be able to cope with a small -scale attack from one of its fabled rogue states, so the Chinese and Russians should rest easy; their weapons can still be seen as a deterrent. But Western experts estimate that China has fewer than 20 nuclear ballistic missiles. Already, China has hinted that it will have to build more if its deterrent is to be effective. That this race will gain momentum is incontrovertible. Russia seems utterly baffled by America's stated determination to tear up the 1972 ABM treaty. But most people do not realise the extent to which America is planning to arm itself during a time of peace. A visit to the US Space Command's website reveals a document called "Vision 2020", which details America's plans to militarise space. Until now, space has been weapon-free, but the US is planning to make it the fourth theatre of operations, after land, sea and air. The website, which uses Dan Dare-style illustrations, says America must be intent upon "full spectrum dominance". "Space operations must be fully integrated with land, sea and air operations," it says. "US Space Command must assume a dynamic role in planning and executing joint military operations. Included in that planning should be the prospects for space defense and even space warfare." Under a section entitled "Global Engagement" the report explains: "Global Engagement is the application of precision force from, to, and through space." And it adds: "The proliferation of missiles and weapons of mass destruction requires a national missile defense (NMD). NMD will evolve into a mix of ground and space sensors and weapons." US Space Command confirmed that Vision 2020 was its current policy but a spokesman said it was in the process of being updated. To what, one can only imagine. What is clear is that part of the money voted to President Bush's Star Wars plans will be used for research into space-based lasers. These, we are told, will be used to shoot down the missiles fired in anger by "rogue states". But they will, inevitably, evolve into weapons that will be aimed at America's enemies from space. US Space Command doesn't even bother to hide this fact. The most chilling illustration in Vision 2020 is of such a space-based laser firing a beam of energy at the earth.

1NC China Frontline (3/3)

**And, they wouldn’t just attack by space – they’ll come across the pacific**

Kaplan ’97 (Robert D., American Journalist and Senior Fellow at the Center for a New American Security, From Atlantic Unbound, “How We Would Fight China” from “Flashbacks: “Cold War: Part II?”” Feb. 1997 <http://teacherweb.com/ON/CASS/BC/HowWeWouldFightChinaTutorialDec11.pdf> DOA: 7/19/11 ARW)

For some time now no navy or air force has posed a threat to the United States. Our only competition has been armies, whether conventional forces or guerrilla insurgencies. This will soon change. The Chinese navy is poised to push out into the Pacific—and when it does, it will very quickly encounter a U.S. Navy and Air Force unwilling to budge from the coastal shelf of the Asian mainland. It's not hard to imagine the result: a replay of the decades-long Cold War, with a center of gravity not in the heart of Europe but, rather, among Pacific atolls that were last in the news when the Marines stormed them in World War II. In the coming decades China will play an asymmetric back-and-forth game with us in the Pacific, taking advantage not only of its vast coastline but also of its rear base—stretching far back into Central Asia—from which it may eventually be able to lob missiles accurately at moving ships in the Pacific.

China will not seek space dominance unless provoked – only minimal deterrence – they are focused on economic and demographic change

MacDonald 2008 – Council on Foreign Relations [Bruce, Council Special Report No. 38 September China, Space Weapons, date accessed : June 24th, 2011, http://www.cfr.org/china/china-space-weapons-us-security/p16707]

In the long run, if China sustains its economic growth to a point where its economic and technological prowess is roughly comparable to at least Japan’s, if not the United States’, U.S. offensive counterspace superiority could be more difficult to sustain if China decided it wanted parity or more, a distinct possibility. Yet by that time, China would be struggling with the economic and political impact of its demographics, where its one-child policy will lead to a rapidly aging workforce. Chinese leaders require decades of external stability so that they “can continue to focus their attention on economic growth and political reform. China can ill afford external distractions that would absorb resources and jeopardize the environment that China requires for continued economic growth.”20 China has many other looming sociopolitical issues, too, making space force parity likely a lower priority for it, as long as it could maintain space deterrence. If the United States and China can successfully navigate the shoals of uncertainty over the next two or three decades and achieve friendlier relations, such considerations could shrink greatly in significance. But achieving such a state requires that these issues be discussed and debated, with as much information as can safely be made public. As a former Air Force vice chief of staff recently wrote, “It is important to encourage a debate on space power to include development of a space deterrent theory. We need something similar to the intellectual ferment that surrounded nuclear deterrence.”21

1NC Miscalc Frontline (1/2)

1. Developing a laser missile defense system would damage U.S. Russian relations to where Russia would retaliate using nuclear weapons – turns case

Defense Daily International 06 (Russia Concerned U.S. May Deploy Space-Based Assets a function of the Claremont institue

September 26, 2006 :::: News <http://www.missilethreat.com/archives/id.273/detail.asp>) AW

Russian leaders are concerned that the U.S. may deploy space-based missile defense assets, reports Defense Daily International. At a recent symposium hosted by the Henry L. Stimson Center, a Washington DC think tank, analysts noted that Russia could respond by detonating a nuclear weapon in space to create a radiation belt that would render U.S. space-based defenses useless. Such a move would also annihilate functioning of Russian satellites, although Russia has far less to lose. According to retired Russian General Vladimir Dworkin, now senior researcher with the Center for International Security at the Institute for World Economy and International Relations of the Russian Academy of Science, Russia’s concerns about lasers in space do not apply to existing components of the multi-layered U.S. missile defense system, such as the Airborne Laser. “We’ve gotten used to it,” Dworkin said. “But if you’re talking about reviving … Star Wars,” perhaps by resurrecting Brilliant Pebbles or developing a laser BMD system, then that “would be a shock” to Russians that they would not easily get used to. The more the U.S. pushes to develop a space-based BMD system, the more sharply Russia would be likely to respond, Dworkin warned.

1. **Even if they don’t intentionally use them, the NMD system would make miscalc even more likely.**

Blair ’00 (Dr. Bruce, President of the Defense Monitor, “The Impact of Nuclear Missile Defense on Russia and National Security” Volume 22 Number 8 <http://www.cdi.org/dm/2000/issue8/nmdrussia.html> DOA: 7/19/11 ARW)

Thus, in response to NMD, the alert rates of missile submarines at sea and road-mobile rockets on land might be increased. Russia's SS-18 force might increase its readiness to launch on warning even if it means breaching the 1994 Clinton-Yeltsin de-targeting pact. In striving to ensure that its missile forces in silos and on dockside alert can be launched before incoming U.S. missiles strike them, Russia might heighten the readiness of its remaining functional early warning radars and nuclear command posts. Such increased emphasis upon accident-prone quick launch options would be virtually certain if the United States deploys a national missile defense in this decade. To deal with this contingency, Russia would likely deploy multiple warheads on its new land-based Topol M strategic missile and might even consider extreme responses including the fielding of space mines designed to disable the NMD's space-based sensor system in the event of U.S.-Russian hostilities.

1NC Miscalc Frontline (2/2)

NMD falsely boosts the confidence of US and its allies which leads to miscalculation and nuclear war

Butt, physicist in the High-Energy Astrophysics Division at the Harvard-Smithsonian Center for Astrophysics, 2010 Former fellow in the Committee on International Security and Arms Control at the National Academy of Sciences, nuclear physics Ph.D., 5/8/10 (Yousaf, “The myth of missile defense as a deterrent,” <http://www.thebulletin.org/web-edition/features/the-myth-of-missile-defense-deterrent>.)

Exaggerating the abilities of missile defense is downright dangerous and military leaders ought to make sure that it doesn't happen; unfortunately, it does. Take, for example, these claims made in the February 2010 Ballistic Missile Defense Review (BMDR) report PDF: "The United States now possesses a capacity to counter the projected threats from North Korea and Iran for the foreseeable future." And: "The United States is currently protected against the threat of limited ICBM [intercontinental ballistic missile] attack, as a result of investments made over the past decade in a system based on ground-based midcourse defense." Neither of these statements is remotely true. The current system cannot even reliably intercept a single missile that's launched at a known time and on a known trajectory. None of the various missile defense systems, sea- or land-based, have ever been tested in a realistic setting: For instance, a surprise attack with salvos of missiles with decoy warheads (and other countermeasures) and unknown trajectories. J. Michael Gilmore, the director of the Operational Test and Evaluation Office of the Secretary of Defense, recently testified PDF that "it will take as many as five to seven years to collect" just the necessary data to determine whether the administration's planned missile defense architecture is even sensible. And if future tests do prove it to be an empirical failure will the administration really roll back missile defense? It's unlikely. The long-range plans appear to be unencumbered by any realistic testing requirements. Unfounded claims of missile defense's effectiveness create a serious risk that political leaders might be misled into mistakenly believing that missile defenses actually work. And if they incorrectly think that missile defense has secured the country by neutralizing the threat of ballistic missile attack, policy makers might be emboldened to stake out riskier and more aggressive regional policies than in the absence of missile defense. A similar mistaken confidence in overwhelming U.S. conventional firepower misled Washington into the Iraq War debacle; nuclear miscalculations would be much more costly. For this reason, missile defense should not, as the NPR claims it would, play any role in "reassuring allies and partners around the world"; no ally should feel secured by a defensive system that can be penetrated by nuclear-tipped missiles. If allies do feel they have neutralized their adversaries' deterrent forces, they too might be tempted to undertake riskier actions, possibly leading to conflict and ultimately even U.S. nuclear intervention. A misplaced confidence in missile defenses could even lull Washington into complacency regarding the spread of WMD and ballistic missile technology: Imagining that they have largely addressed the threat from ballistic missiles, policy makers might feel less urgency to fight proliferation.

1NC Rogue States Frontline (1/3)

Low risk of rogue state attack

Charles Glaser andSteve Fetter 2001**,** Professor in the Irving B. Harris Graduate School of Public Policy Studies at the University of Chicago and Professor in the School of Public Affairs at the University of Maryland, **01** International Security, “National Missile Defense and the Future of U.S. Nuclear Weapons Policy”, Summer, 2001, Vol. 26, No. 1, P. 40-92

The probability of a rogue-state attack in the absence of NMD is very low. We explained above that the number of rogue states that might acquire ICBMs over the next ten to fifteen years is small, and diplomacy may enable the United States to prevent some of these threats from materializing. Here we argue that the United States most likely will be able to deter any rogue ICBM threats that do emerge.

Terrorists have means of attacking the US other than ICBMs.

Kevin Norgaard, LT. Colonel, professor at US Army War College, 2002 US Army War College, “Where Now National Missile Defense?”, 4/9/02, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA404491&Location=U2&doc=GetTRDoc.pdf>,

The events of September 11th raised many legitimate questions about the ballistic missile threat to the United States? Should we worry about ballistic missiles because terrorists will use airplanes instead? Should we forget about NMD and spend the money on airport security and customs screening instead? Are we wrong to worry about State actors and should we now focus on radical fundamentalists? While each of these questions is academically debatable, this author proposes that the1 1th of September proved two important things about the threat. First, the United States Homeland and its citizens are vulnerable to devastating attacks from a determined foe with global reach, and second, if the determined foe has the means to act, he will.

Cruise missiles will be a viable option for terrorists in the future.

Thomas Mahnken, Deputy Assistant Secretary of Defense for Policy Planning, 2005Center for Strategic and Budgetary Assessments, “The Cruise Missile Challenge”, 3/05, <http://openscenarios.ida.org/scenarios/261-The_Cruise_Missile_Challenge.pdf>

A diagnostic assessment of the cruise missile challenge should also include an exploration of plausible scenarios in which cruise missiles could be used against the United States, highlighting particular challenges to the United States, its forces, and allies. A representative range of scenarios should examine the employment of different types of cruise missiles (i.e., both anti-ship and land-attack missiles). It should also cover a range of threats, from small numbers of relatively unsophisticated missiles to larger, more sophisticated integrated attacks including not just cruise missiles but other attack means. It should examine the use of cruise missiles by both states and non-state actors, such as terrorist groups. Finally, it should highlight particular challenges to US national security, including the ability of potential adversaries to deny the United States access to key areas, or to threaten the US homeland. Cruise missiles are likely to be increasingly attractive to US adversaries. The success of the US air forces has made competing head-to-head with the United States in the air a singularly unattractive prospect. Moreover, the demonstrated effectiveness of US theater ballistic missile defense units may divert some competitors away from investment in ballistic missiles. As the Chief of Staff of the 32nd Army Air and Missile Defense Command commented regarding Iraq’s cruise missile force, “this was a glimpse of future threats. It’s a poor man’s air force. A thinking enemy will use uncommon means such as cruise missiles and unmanned aerial vehicles on multiple fronts.”

1NC Rogue States Frontline (2/3)

Iran has demonstrated neither technological breakthroughs, or ICBM capability. It does not have the R&D or infrastructure to develop ICBMs.

FRSTRATEGIE.ORG 5/2009 (<http://www.frstrategie.org/barreFRS/publications/dossiers/menace_balistique/doc/JTA.pdf>, date accessed, 7/15/11,

On February 2, 2009, Iran used the liquid-propellant Safir space launch vehicle (SLV) to send the Omid earth satellite into low earth orbit. By launching an earth satellite, Iran has demonstrated that it can exploit low thrust rocket motors to build a two-stage rocket, and that it has qualified engineers who are able to make good use of the technology that is available to them. It does not show, however, that Iran has made a fundamental technological breakthrough. 3.12 The first stage of the Safir SLV is derived from the Shahab-3 motor and airframe, with fuel and oxidizer tanks extended beyond those of the Shahab-3. In other words, the first stage of the Safir SLV is still based on the North Korean Nodong missile. The Safir SLV upper stage placed a satellite weighing about 27 kg into low-earth orbit. The Safir SLV upper stage appears to be nearly optimally designed to launch a small satellite into orbit. 3.13 Fears have been expressed that the two-stage Safir SLV can serve as the prototype of a long-range Iranian ballistic missile. The Safir SLV upper stage placed a satellite weighing 27 kg into low earth orbit, but any nuclear warhead will be much heavier than that. The Safir upper stage is not likely to be suitable for carrying a nuclear warhead of roughly 1,000 kg weight because the thrust of its rocket motor may be too low and because its structure may not be strong enough to support such a heavy payload during flight. 3.14 The launch of the Omid satellite provides new information about the way in which Iranian rocket technology is developing. Iranian engineers have demonstrated a high level of competence and ingenuity in rocket design. The Safir SLV can be regarded as a step in the development of ìstagingî technology, which is critical for the construction of two- and three-stage ballistic missiles and space launch vehicles. The Soviet Union and the United States started their ballistic missile programs with artillery rockets, surface-to-air missiles, and simple ballistic missiles. Iran started its ballistic missile program in the same way. Unlike Russia and the United States, however, Iran does not have the infrastructure of research institutions, industrial plants, or the scientists and engineers that are needed to make substantial improvements in the basic rocket components it has used from the start. 3.16 SCUD missiles use relatively low-energy propellants, rocket motors with materials and designs that are very hard to upgrade to more energetic propellants, and primitive guidance systems. SCUD technologies impose important limitations on the expansion of range and payload. Reports about the development of new ballistic missiles — the Shahab-4, Shahab-5, and even the Shahab-6 with a range of 5,000-6,000 km and more — have not been supported by any information, much less video or photographic evidence. The various modifications of the Shahab-3 constitute the main missile threat from Iran today. 3.17 The path that Russia, China, and the United States followed in developing modern IRBMs and ICBMs required new technologies, advanced materials, sophisticated technical solutions, large numbers of personnel with a high level of experience and skill, and a highly developed R&D and manufacturing infrastructure.13 Iran is trying to build up its own indigenous R&D and production base, but it lags very far behind the leading missile countries. It has made skillful use of rocket components imported from other countries, and it will continue to rely for a considerable time on outside help in extending the payload and range capabilities of its ballistic missiles. 3.18 The history of truly indigenous ballistic missile development programs shows that every new phase of development requires tremendous intellectual and material efforts and many years to achieve results. The development and production of modern ballistic missiles requires an advanced R&D and industrial infrastructure, which in turn depends directly on the general level of a country’s scientific, technological, and industrial resources. More specifically, it requires: access to the world market for high-tech equipment, materials, and components; a general, diverse, and specialized system of educational, research, and training institutions; a highly developed R&D and industrial base; and a sufficiently large force of highly qualified and skilled scientists, engineers, and industrial workers. 3.19 The leading missile countries have hundreds of research organizations and Industrial enterprises cooperating in the development and manufacture of ballistic missiles. In Russia, for example, hundreds of entities participate in production of the “Topol” ICBM. The total number of employees in the Chinese missile and space industry exceeds 200,000, even though China has rather modest achievements in missile technologies compared with the United States and Russia. Iran does not have such an infrastructure; neither do North Korea or Pakistan. 3.20 The major scientific, technological and production problems that have to be solved in building an IRBM or an ICBM are as follows: a. The development of powerful rocket motors; b. Flight control, guidance systems, and telemetry; c. Reentry vehicle heat protection; d. Construction materials; e. Flight testing. Each of these areas would pose major scientific, technological, and production problems for Iran. (These are discussed in the Technical Addendum, available at [www.ewi.info](http://www.ewi.info).) Iranian officials have claimed that Iran has missiles with a range of 2,000 km.14 Such missiles would be capable of striking targets in the Middle East, southern Russia, and southern Europe. Iran, however, does not now have a missile capable of delivering a 1,000 kg payload to a range of 2,000 km. Table 1 shows that with such a payload the longest range of an Iranian missile for which we have technical data (i.e., the Shahab-3M) is 1,100 km. Nevertheless, on the basis of the technologies available to it, Iran could develop a ballistic missile capable of delivering a nuclear warhead weighing 1,000 kg to a range of 2,000 km. The time it would take for Iran to do this is determined primarily by the time it would take to build a nuclear warhead that is small enough and light enough for an Iranian missile to deliver — that is, six to eight years. (This is based on the estimates of the time it would take Iran

1NC Rogue States Frontline (3/3)

to produce a simple nuclear device and then to develop a nuclear warhead.) 3.22 With the components and technologies it now has, Iran could hypothetically build missiles with a range of 3,000 km or more. Such missiles would possibly need a first stage consisting of a cluster of rocket motors, along with the associated turbopumps, control systems, and airframe. (The United States and the Soviet Union used rocket motor clusters in rocket development.) Along with the development of “staging” technology, Iran would have to learn to cluster rocket motors of limited thrust, since they are the only rocket motors currently available to it. These are both serious challenges, requiring extensive research and development and testing to gain the proper results and experience. Iran would also have to make significunt advances in turbopump-related and airframe manufacturing technologies, as well as in system integration and component reliability. It would also need to solve difficult problems in flight control and guidance technology, and it would face particular problems in controlling the thrust vectors of the motors in the various stages. The design of warheads able to withstand the heat of reentry into the atmosphere would also present problems. Mastering the necessary technologies without external assistance would be a major undertaking, requiring perhaps ten years of concerted and visible effort. IRBMs and ICBMs built in this fashion would have a serious disadvantage from Iran’s point of view. They would be large, visible, and cumbersome, and they would have to be launched from above ground, not from silos. They would be anchored to their launch sites and would take days to prepare for launch and hours to fuel. The launch sites could be monitored from space, and launch preparations would be visible. Preparation for the launch of such missiles would be vulnerable to preemptive strikes. Because they would not be survivable, missiles of this kind would not provide effective deterrence of an attack on Iran — indeed they might invite an attack — while their use would inevitably elicit 10 a devastating response. If Iran decides to develop IRBMs or ICBMs, it would make sense for it to develop missiles that are mobile and thus hard to find, or based in silos and thus hard to destroy. That would require more advanced technologies than Iran now possesses and would take longer than the development of IRBMs or ICBMs on the basis of existing technology.

US space dominance hurts hegemony – causes backlash – legal approach solves better

Bellflower 10, instructor at the Advanced Space Operations School [Air Force Judge Advocate General School. The Air Force Law Review. The influence of law on command of space name: major john w. Bellflower Lexis Accessed June 21, 2011]

Whether or not the United States is the "preeminent" military power in the world has become irrelevant. 231 American power troubles the rest of the world. 232 Even our allies find little assurance in the historical absence of armed conflict among fellow democratic societies, 233 and worry about the concentration of power in the hands of [\*144] a single country. 234 The United States unintentionally exacerbates this concern by expressing an ill-defined desire to control, master or "command" space. Going forward, a sensible strategy must rely on mechanisms of international law to craft an acceptable definition of command of space. Such a definition would comport with our national security and international law, and thereby avoid needlessly generating additional competitors and adversaries. Similarly, agreement to ban kinetic effects in space would address international concerns while concomitantly mitigating a portion of the known danger to U.S. space assets. A de facto ban on kinetic weapons in space would likely face opposition in the U.S. military, although such opposition is shortsighted. A lawfare strategy to achieve command of space without resort to the most destructive of weapons would allay some if not most of other nations' fears. But the primary basis for this proposal is to advance effective security of American space lines of communication, while interacting with our potential adversaries. As Sun Tzu advised, "that which depends on me, I can do; that which depends on the enemy cannot be certain." 235 A ban on kinetic effects in space will in no way guarantee that an adversary will never employ so called space weapons in the future. Nevertheless, because our own use of such weapons will generate debris, the United States should act regardless of this uncertainty and in doing so would continue to retain the ability to respond non-kinetically in space and kinetically on earth. Such a ban would find strong support in international law, and could possibly and practically eliminate the threat of space debris from kinetic weapons entirely.

1NC Aliens Frontline

Aliens don’t exist.

Bostrom 02, Nick: Professor of Philosophy and Global Studies **at Yale**

[“The dread planet Why finding fossils on Mars would be extremely bad news for humanity,” p. lexis, May 25]

Why? To understand the real meaning of such a discovery is to realize just what it means that the universe has been so silent for so long - why we have been listening for other civilizations for decades and yet have heard nothing. Aliens may visit us in books and films and in rumors in Internet chat rooms, but it's a fact that there has been no objective evidence for the existence of any extraterrestrial intelligent civilization. We have not received any alien visitors, nor have our radio telescopes detected their signals. As far as we can determine, the night sky is empty and silent.

EVEN IF aliens exist, they’d be nice aliens, not mean ones.

Vakoch 02, **Douglas: Social Scientist / Principal Investigator, SETI Institute**

[“Will ET Be Hostile? Alienated People Are More Likely to Say 'Yes',” http://www.seti.org/Page.aspx?pid=1112]

Astronomer Frank Drake, the Father of SETI, has argued that ET will likely be altruistic, rather than malevolent. Drake reasons that if extraterrestrials are hostile, then their civilizations wont last very long, and were unlikely to make contact with them. Only extraterrestrials with a long-lasting, stable society will be around long enough to be detected by our SETI programs.

Aliens are good – allows for human cooperation, solves all war.

Sagan 94, **Carl: NASA Distinguished Public Service Medal, named the “99th Greatest American” by the Discovery Channel**

[“Pale Blue Dot,” p365]

The realization that such beings exist and that, as the evolutionary process requires, they must be very different from us, would have a striking implication: Whatever differences divide us down here on Earth are trivial compared to the differences between any of us and any of them. Maybe it’s a long shot, but the discovery of extraterrestrial intelligence might play a role in unifying our squabbling and divided planet. It would be the last of the Great Demotions, a rite of passage for our species and a transforming event in the ancient quest to discover our place in the Universe. In our fascination with SETI, we might be tempted, even without good evidence, to succumb to belief-, but this would demand a tolerance for ambiguity. Where we are ignorant, we withhold belief. Whatever annoyance the uncertainty engenders serves a higher purpose: It drives us to accumulate better data. This attitude is the difference between science and so much else. Science offers little in the way of cheap thrills. The standards of evidence are strict. But when followed they allow us to see far, illuminating even a great darkness.

\*\*\*Neg Solvency Extensions\*\*\*

2NC Solvency – Not Feasible

Space Based Missile Defense isn’t feasible or practical. Costs are too high for little security benefits.

TAYLOR, 2006 (Jessica, Journalist UPI correspondent “Experts Debate Space-Based Missile Defense Assets” July 26, 2006) <http://www.spacewar.com/reports/Experts_Debate_Space_Based_Missile_Defense_Assets_999.html> DOA: 7/18/2011

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A new report claims U.S. anti-ballistic missile defenses must be deployed in space to be effective, but critics disagree. Several analysts say the study is based on false pretenses and the deployment of defense mechanisms into space is not in national security interests. The Institute for Foreign Policy Analysis, a Washington think tank, has issued a study saying the implementation of plans for space missile defense is critical for U.S. national security and an effective system against at least some intercontinental ballistic missiles from so-called rogue states should be in place no later than 2010. "The absence of a space strategy is a gap in national security," said Robert Pfaltzgraff, president of the IFPA, during a roundtable on the new report hosted by the American Foreign Policy Council, a small conservative Washington think tank, last Friday on Capitol Hill. "Only space can give us a global missile defense." The threat is even more immediate, many fear, following several missile tests on July 4 by North Korea. While their long range Taepodong-2 ICBM was unsuccessful, several short range No Dong missiles appeared to work effectively in the tests. One of North Korea's main exports is weapons, and Pfaltzgraff said the United States should be increasingly concerned that these short range missiles could end up in the hands of terrorists aiming to launch them from domestic shores. The IFPA analysts claimed that U.S. ballistic missile defense must be revaluated in light of these developments. However, other analysts said the Bush administration has failed so far in adequately developing its BMD programs. "Space Missile Defense won't do anything for security and will blow the defense budget," said Craig Eisendrath, board chairman for the Project of Nuclear Awareness and a former State Department analyst who dealt with space and nuclear policy. Similar criticisms were prevalent following President Ronald Reagan's proposal of a Strategic Defense Initiative, also known as "Star Wars," that originally conceptualized deploying nuclear missile defenses in space. The suggestion was revived again under the current Bush administration with the idea of "Brilliant Pebbles." "The idea was that a small satellite with good brain that would see enemy missiles and dash off after it, hit it and knock it down," said Philip Coyle, senior advisor at the Center for Defense Information. However, this concept would have required multiple satellites, perhaps as many as 1,000, in orbit to be effective. "You can't have one interceptor parked over North Korea," said Coyle. "You need another to take its place." Coyle also questioned the monetary feasibility of the program. "It would be, by all measures, very expensive. And it's still problematic as to whether would work," Coyle said. "They've been projecting [costs] for at least 20 years and it doesn't seem to happen." Pfaltzgraff said that U.S. withdrawal from the Anti-Ballistic Missile Treaty in 2001 opened up additional options in the use of space-based weapons for missile defense. However, the Bush administration had not adequately explored these options and current U.S. missile defense policies remained virtually unchanged since the Clinton administration, he said. "Bush will eventually be judged by what he does in the next two years" of his waning presidency, he said. Eisendraft said U.S.withdrawal from the ABM treaty had been a negative move for the United States and that many of America's missile defense challenges today stemmed from that pullout. Current ABM defense systems deployed in California and Alaska were inadequate, he said. Should a missile be launched, the 11 ground-based midcourse interceptors currently deployed would probably be unable to distinguish between an actual threat and a decoy. The United States has also refused to join in a treaty banning the use of space for missile defense. China, Japan, and the European Union are all willing signatories, Eisendraft said, who helped draft the original treaty. "This is crazy when the rest of the world is completely willing to sign on and kick the rest of this out," he said. "The United States is acting in a completely irresponsible manner." But the biggest factor in the push for space weaponry is corporate interests rather than economic and security sensibility, said Eisendraft. "We're dealing with a situation not driven by security aspects but money," said Eisendraft. "Across the board, we're not dealing with anything that's looking promising" in the use of space." Source: United Press International

2NC Solvency – Not Feasible

SBL can’t refuel, can only use a few shots, and weigh too much to lift into space.

Chun 2002. (Chair for the Department of Distance Education at the U.S. Army War College, Professor of Economics at the U.S. Army War College, B.S. in business from the University of California, Berkeley, an M.A. in economics from the University of California, Santa Barbara, and a Ph.D. in public policy analysis from the RAND Graduate School. “Striking Out to Space: Technical Challenges to the Deployment of ASAT Weapons” 7/19/11, http://se2.isn.ch/serviceengine/Files/RESSpecNet/14392/ichaptersection\_singledocument/51D8ADFE-8C63-402E-BAF4-6D3FD459C3DB/en/05\_Chun.pdf)-EH

A space-based or airborne weapon would probably use a multi-megawatt chemical-powered laser. This characteristic would require these systems to carry a limited quantity of chemical fuel that would limit their operational capability to a few shots. Additionally, an orbiting system does not have a capability to refuel easily. A spacebased system would also require a large, segmented primary mirror to aim the laser and focus the beam. The mirror would need to be approximately 12 meters (about 40 feet) across. A weapons-grade mirror has never been constructed with these dimensions.14 An eight-meter diameter mirror might weigh anywhere from 6,000 to 7,000 pounds alone. DEW operations require an extensive amount of support personnel and equipment. Moving the operation into space, assuming an unmanned system, would also require a large amount of sophisticated automated support systems with redundancies. Such a system, which includes the weapon, fuel, mirror, and support elements, might tax current space-lift capabilities. One source estimates that a space-based laser would weigh about 70,000 pounds.15 The most powerful U.S. space-lift asset, the Space Shuttle no longer carries military payloads. Regardless, it only carries a maximum payload of only 55,000 pounds into an orbit of about 174 to 260 miles.16 The largest expendable launch vehicle, Titan IV, might push a 39,000 pound payload into a 115-mile LEO or a much smaller 4,000- pound payload into a polar orbit.17 Unless the United States builds a higher capacity space launch booster, improves technology relative to weight savings, or delivers the orbiting weapon in segments, it cannot deploy such an ASAT in the near future. Still, a space-based laser requires less energy than ground-based systems, since it does not need the energy required to penetrate the atmosphere and into space. The weapon also is mobile, assuming it has a maneuvering capability.

2NC Solvency – No Solvency

**SBL’s face operational barriers and fail under rudimentary defense and cloud cover**

DeBlois, et al ’04 (Bruce M., Director, Mission Integration Programs, et al, “Space Weapons: Crossing the U.S. Rubicon” International Security, Vol. 29, No. 2 (Autumn, 2004), pp. 72-73 Published by: The MIT Press <http://www.jstor.org/stable/pdfplus/4137586.pdf?acceptTC=true> DOA: 7/19/11 ARW)

Space-based lasers, however, face significant operational barriers. Because the satellite would move with respect to a fixed point on Earth, continuously covering strategically important regions (in clear weather) would require a constellation of several dozen lasers. The lasers would be effective only against a narrow class of targets, such as combustibles, aircraft canopies, and thinskinned storage tanks. Common military objectives such as bunkers, armored vehicles, and buildings would be basically immune to laser attack. Rudimentary shielding by smoke screens, ablative cork coatings, or even pools of water can provide a substantial and cheap defense for nearly any target. Furthermore, space-based lasers could not attack targets under cloud cover-on average 30-40 percent of the Earth's surface and some 70 percent of the time in parts of Germany or North Korea.

2NC China – Backlash

China will develop undiplomatic responses to U.S. space dominance.

Zhang in 2005 (Hui, a research associate in the Project on Managing the Atom at Harvard University’s John F. Kennedy School of Government, Action/Reaction: U.S. Space Weaponization and China, 2005, <http://www.armscontrol.org/act/2005_12/Dec-cvr>, DOA: 7/18/2011)

Historically, China’s stated purpose for developing nuclear weapons was to guard itself against nuclear blackmail. Beijing’s official statements do not discuss potential responses to U.S. space weaponization, but many Chinese officials and scholars argue that China must ensure that U.S. efforts do not negate the effectiveness of its nuclear deterrent. As one Chinese official stated: China is not in a position to conduct an arms race with the United States and it does not intend to do so, particularly in the field of missile defense. However, China will not sit idly by and watch its strategic interests being jeopardized without taking necessary measures. It is quite possible and natural for China to review its military doctrine and a series of policies on the relationship with big powers, Taiwan issues, arms control and nonproliferation, etc. Certainly, the best option for China is to reach an arms control agreement to prevent space weaponization, as it is advocating now. However, if this effort fails and if what China perceives as its legitimate security concerns are ignored, China would very likely develop other responses to neutralize the perceived threat. Because it is not clear what type of missile defense system the United States will finally deploy or whether the U.S. space control plans will be implemented, it is difficult to identify conclusively China’s specific countermeasures. Yet, there are certain options that it would be likely to consider. It should be noted that these discussions are based on China’s capabilities and do not characterize China’s intentions.

**China sees putting weapons in space as a threat. Aggressive militarization of space causes China to attack.**

Xinhua News, 2000

(Xinhua News Agency in Beijing, China at arms control forum criticizes "raging hegemonism" 1/27/2000)

Text of report in English by official Chinese news agency Xinhua (New China News Agency)

Geneva, 27th January:

China said on Thursday [27th January] that the international arms control and disarmament cause is now "at the cross-roads," and urged the international community to make a concerted effort to conduct "fair, reasonable and comprehensive" disarmament. "With the advent [of] the new century and the new millennium, the Chinese people whole-heartedly hope to achieve the goal of peace, security and development with all the other peoples in the world," Chinese delegate Hu Xiaodi told the first plenum of the Conference on Disarmament in 2000. "International arms control and disarmament is now at the cross-roads" because of a lingering Cold War mentality, raging hegemonism and power politics, enlarging military alliances and other negative developments, he warned. The Cold War mentality still exists in the world today and is tending to resurge Hu said, adding that hegemonism and power politics are increasingly rampant, with gross intervention in other countries' internal affairs reaching its peak, and the use of massive force among nations taking place without UN approval. A mammoth military alliance has been enlarged and consolidated rather than allowed to wither away, he said. Regardless of requirements and appeals made by the United Nations Assembly, some countries have applied pragmatic and double standards on arms control and arms reduction treaties. They have even sought to weaken or nullify treaties, in order to clear the way for research, development and proliferation of advanced missile defence systems, which will imperil strategic balance and stability. "All these developments, which have weakened confidence and security perceptions of states, are posing serious threat to the achievements made in the process of arms control and disarmament and will certainly bring about devastating effects to the arms control and disarmament process in the future," he said. Hu said that preventing an arms race in outer space and re-establishing a special committee on nuclear disarmament should be priorities of the disarmament conference in its year 2000 session. According to a resolution adopted last year by the UN General Assembly, he said, the forum should play "a leading role" in negotiating and concluding legal documents to prevent an arms race in outer space. The resolution requires the conference to re-establish a special committee on nuclear disarmament in 2000 as soon as possible so that negotiations could be opened at an early date on programmes to phase out nuclear weapons and their eventual elimination. The prevention of an arms race in outer space, including prohibiting arms used in outer space and anti-missile systems that will damage strategic stability, is the top priority, he said. It is the serious situation in this area that has hindered the nuclear disarmament process and is undermining the basis of nuclear non-proliferation, he stressed. Therefore, he added, the Chinese delegation calls for re-establishing the special committee on preventing outer-space arms race and opening negotiations on the experiment, deployment and use of arms, arms systems and their components in the outer space. China is also for holding serious multi-lateral negotiations on nuclear disarmament in order to fulfil the lofty goal of completely eliminating nuclear arms at an early date, he said.

\*\*\*Impact Turns and Defense\*\*\*

Impact Defense – Russia

Russia’s military is “broke and broken”, even if something happens, nothing can come of it

Blair ’00 (Dr. Bruce, President of the Defense Monitor, “The Impact of Nuclear Missile Defense on Russia and National Security” Volume 22 Number 8 <http://www.cdi.org/dm/2000/issue8/nmdrussia.html> DOA: 7/19/11 ARW)

Russia's nuclear arsenal is broke and broken. Moscow's overall economic decline has taken a large toll on Russian security during the past decade. Its military cannot adequately perform traditional, essential security missions – airspace surveillance and defense, territorial defense against invasion, border control, and maintenance of internal cohesion. The sole exception to this dismal state of military affairs is nuclear deterrence, and even this mission is becoming burdensome.

SBMD Bad – Conflict

**An NMD system would only assure other methods of attack; not lead to safety**

Kimball and Young ’01 (Daryl G. and Stephen W., “National Missile Defences and arms control after Clinton’s NMD Decision”, Page 15, Disarmament Forum: 2001, (Kimball: Executive Director of the Arms Control Association)(Young: Senior Analyst of Global Security Program at the Union of Concerned Scientists) <http://www.unidir.org/pdf/articles/pdf-art91.pdf> DOA: 7/19/11 ARW)

Even if a NMD system can be designed to distinguish warheads from decoys, engineered to be reliable and operationally effective, and if it does not prompt a state to build additional offensive missiles to over-saturate missile defences, NMD cannot guard against other, less sophisticated means to deliver a weapon of mass destruction. Should a country decide it wants to attack the United States with a nuclear, chemical or biological weapon, it is likely to choose delivery methods that are more reliable, less expensive, more covertly deliverable, more accurate, and likely to be more effective than long-range ballistic missiles. Without the ability to conduct nuclear-weapon test explosions, initial indigenous nuclear weapon designs are likely to be too large and heavy for a modest-sized ballistic missile, making delivery by ship, truck or even aeroplane more viable. Development and deployment of national missile defences will only make it more likely that such means of delivery are pursued.

SBMD Bad – Laundry List

Developing a national missile defense system destroys relationships, endangers world peace, and undermines US security

BBC 99 Monitoring Asia Pacific – Political Supplied by BBC Worldwide Monitoring March 21, 1999, Sunday CHINA NEWS AGENCY SEES US MISSILE SYSTEM AS UPSETTING GLOBAL STRATEGIC BALANCE

Washington, 18th March: Following the US Senate's passing of a bill on 17th March authorizing the establishment of a ""national missile defence" NMD , the US House of Representatives also approved a similar bill by 317-102 on 18th March. Public opinion in the world believes that the US action destroys the Anti-Ballistic Missile Treaty ABM it signed with the former Soviet Union in 1972. The action not only runs counter to the trend of the times, but also upsets the regional and even the global strategic balance and endangers world peace and stability. The NMD is a defence system that uses guided missiles and other weapons to intercept intercontinental ballistic missiles flying towards the United States. It is the next generation of the "Star Wars" programme initiated during the Cold War period by the Reagan Administration against the former Soviet Union. The NMD and the theatre missile defence system TMD combined have become an important component of the US nuclear strategy and an important pillar of the US nuclear deterrent. Since the 1980's, the United States has spent some 50bn dollars in the development of missile defence systems, with spending on TMD and NMD reaching 15 and 3.9bn dollars, respectively. Last January, the Clinton administration an-nounced an additional appropriation of 6.6bn dollars for the development of NMD, bringing the total to 10.5bn dollars. The United States already possesses the largest and most advanced nuclear and conventional weapons arsenals in the world . Yet, it still does not hesitate to spend a huge amount of money to develop missile defence systems. To put it bluntly, in doing so, the United States is actually trying to achieve greater military superiority in areas vital to US inter-ests and to safeguard its global sole superpower status in the name of eliminating military threat. Some US missile defence systems are deployed entirely in outer space or aim at targets in outer space, and some are based in outer space to provide targeting signals and guidance for weapons system on the ground. Arms control experts believe that if the United States goes all out to develop missile defence systems, mostly likely it would lead to a new round of outer space arms race, with the result that the outer space would become a new arms base and battleground. With the end of the Cold War, peace and development have become the dominant trend of our times. The possible harm to world peace and stability resulting from the US plan to develop missile defence systems has aroused the grave concern of the international community. At the Geneva disarmament plenary in late February, representatives of a number of non-aligned countries pointed out that deploying weapons in outer space will inevitably be construed as an effort to seek a global superiority and will lead to a new round of strategic confrontation and arms race in outer space. They also believe that regardless whether the weapons are deployed in outer space, building the TMD systems will lead to military superiority of one party over another and break the regional or even the global security strategic balance. Therefore, the non-aligned countries un-animously asked the disarmament conference to set up a special committee to prevent an arms race in outer space. The US plan to develop guided missile defence systems has met with Russia's strong opposition. In its statement re-leased on 18th March, the Russian Foreign Ministry stressed that the move to establish a national missile defence sys-tem is prohibited under the Anti-Ballistic Missile Treaty ABM signed by the United States and the former Soviet Union in 1972, saying the move poses a serious threat to the whole process of limiting nuclear weapons and to the stability of a strategic situation which has taken decades of international agreements to build up. The US goal in developing the NMD system is to protect the entire US territory against the attack of ballistic missiles. Yet, even some members of the US Congress are doubtful whether the system would guarantee the safety of the coun-try. Observers here believe that the US disregard of world opinion and international security and its insistence on de-veloping missile defence systems are bound to affect relations with countries concerned, undermine the foundation of bilateral or even multilateral cooperation, and destroy in a single day the fruits of cooperation in security areas achieved by many countries through joint efforts. This will ultimately harm the security interests of the United States itself.

\*\*\*DA Links\*\*\*

Plan Unpopular – Spending

**Missile Defense is a political firestorm because of high costs**

Moltz 03 Associate Professor and Academic Associate for Security Studies (James Clay, New Challenges in Missile Proliferation, Missile Defense, and Space Security, <http://kms1.isn.ethz.ch/serviceengine/Files/ISN/14386/ipublicationdocument_singledocument/36D8EB06-A8CB-474E-AD1E-4B55C8047526/en/op12.pdf> JH)

Almost three years ago, I examined why the costs of missile defense programs seemed to rise so rapidly, well beyond the sort of cost growth that is considered normal. I developed a hypothesis that I believe goes a long way towards explaining the phenomenon. It posits that high cost growth in missile defense programs stems from three factors: the programs are highly political; they respond to a perceived, urgent near-term threat; and the technical challenges are significantly underestimated. Since then, the politics, budgets, and status of the U.S. missile defense program have undergone some important changes. At the same time, the United States has started running record budget deficits to finance wars, defense modernization, and homeland security. This essay examines those changes in the context of my theory and use it to predict what effect they will have on the future budget politics of missile defense in the United States. Cost has played an important role in the missile defense debate over the years. It is often the anvil upon which the success or failure of a missile defense scheme (or any other weapons system) is forged.

Plan Unpopular – Democrats

Even if otherwise popular, perception of costliness makes Democrats hate BMD spending.

Sieff 6 (Martin, Nov 20, “US, Japan Boost BMD Cooperation”, <http://www.spacewar.com/reports/US_Japan_Boost_BMD_Cooperation_999.html>)

Abe's statement will be especially welcome news for Boeing, Raytheon, Lockheed Martin and the other main U.S. defense contractors on BMD. With the opposition Democrats taking over control of the U.S. Senate and House of Representatives in the Nov. 7 U.S. midterm elections, the Bush administration is expected to face pressure to cut costs and tighten spending on BMD.

Prolif DA Link

Space Based Lasers do not work as missile defense. If put into space it would be seen by other countries as a weapon causing other countries development.

UCS 2011 (“Space Based Missile Defense,” 7/19/11, <http://www.ucsusa.org/assets/documents/nwgs/space-based-md-factsheet-5-6-11.pdf)-EH>

In past years, the Missile Defense Agency has requested funding for the Space Testbed program, to develop a space-based interceptor; to develop the command, control, battle management and communications structures for space-based missile defense; and to launch interceptors into orbit and test them against ballistic missiles. Although this program has been described as only research and development, Congress should not support such a program. As discussed above, space-based interceptors would not provide a credible defense against ballistic missiles, yet the technology being developed would be useful for offensive attacks on satellites. Placing even a few prototype interceptors in orbit would be seen as providing an anti-satellite (ASAT) capability. A decision to fund this program could send a message to other countries that the United States is developing a space-based ASAT capability. This apparent pursuit of space control technologies may encourage similar development by other countries, which would reduce U.S. security. Funding a Space Testbed is not an acceptable compromise between banning and deploying a space-based missile defense.

Spending Link

Launch will cost $44 Billion.

**Hitchens Theresa A. July 21 2003** (Hitchens Theresa A, Director of UN Insititute for Disarmament Research, former Director for Center for Defense Information, “Space Based Missile Defense, Not so Heavenly.” 7/18/11 <http://www.nuclearfreenz.org.nz/notsoh.htm>) EH

And the U.S. interceptors would have to be substantially larger and faster than ever built before, not to mention larger and faster than currently estimated by MDA. All totaled, the interceptors would weigh 2,000 metric tons. While the study, "Report of the American Physical Society Study Group on Boost-Phase Intercept Systems for National Missile Defense: Scientific and Technical Issues," did not provide any cost analysis, doing the math is fairly simple. Average launch costs have hovered for decades at about $22,000 per kilogram. A metric ton equals 1,000 kilograms. So, this best-case scenario for space-based missile defenses would cost $44 billion just to get the interceptors into orbit. Some experts argue that, given the volume of space launches that would be required to boost the system, launch costs could conceivably over time come down to half that per kilogram sum: $11,000. If this is true, then such a system could be put into orbit for only $22 billion. But here's the rub: The physicists themselves admit that the system described above is based on assumptions that are optimistic enough to border on unrealistic. Under more realistic technical parameters, a system to defend the continental United States against a North Korean launch would involve 3,600 orbiting interceptors, at a cost of either $99 billion, or using the lower launch cost figure, $49.5 billion. However, the study itself notes that even these "more realistic" assumptions are quite optimistic, not only in pushing the edge of what is technically feasible but also in that the space-based system described is one in which every element works perfectly 100 percent of the time --something unheard of in the annuals of U.S. weapons development.